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ABSTRACT

Control of urban development and preservations of open space have become increasingly controversial issues in recent years. This booklet was prepared to help citizens and local officials resolve these types of issues. It is intended to provide a framework for positive discussions between citizens and local officials, and includes an introduction to some of the philosophical and technical issues which generally underlie the creation of a systematic policy for managing local open space. The emphasis of the document is on citizen initiation of local government actions. It contains seven chapters concerning: (1) open space development in the United States; (2) a review of open space situations across the United States; (3) identification of needs; (4) planning, goals and needs; (5) importance of selectivity; (6) open space site analyses; and (7) implementation of open space acquisitions, funding and management. Sources for more information on these topics are also included. (TW)

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OPEN SPACE AND LAND DEVELOPMENT

OPEN SPACE AND LAND DEVELOPMENT

A Basic Guide to Management and Preservation of Open Space, Parks, and Recreation Areas in Urban Communities

Larry L. Harris
George F. Hepner

Science for Citizens Center of Southwestern Michigan
Western Michigan University
1983

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WMU

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Dear Reader:

The Science for Citizens Center of Southwestern Michigan is pleased to make available this guide to open space management and preservation for urban communities. We hope it helps you to better understand and deal with some of the ecological, social and economic aspects of open space issues in your community.

In these times of tight budgets, parks, recreation and open space must compete for priorities with other essential services provided by local government. While communities are confronted with open space and land development conflicts, public demand for a wide variety of passive and active recreation continues to grow.

It is therefore particularly important now that an attempt be made to increase recognition of the long-term value and public benefits of open space. This publication is intended to help elected officials, members of parks and recreation boards, planning commisioners, as well as concerned citizens in addressing local open space problems and in finding new and innovative approaches to their solution.

We are fortunate to have had the expertise of two dedicated individuals available to us for preparing the manuscript. Mr. Larry Harris, a professional landscape architect with his own consulting firm in Kalamazoo, and Dr. George F. Hepner, an assistant professor of geography at the University of Kentucky, have collaborated on this outstanding effort. They are to be commended for contributing far beyond our original hopes and expectations.

This publication represents only one of the many kinds of services available from the Science for Citizens Center. The Center is designed to provide scientific assistance to citizens groups, public officials, and community organizations concerned with public-policy issues in southwestern Michigan. If you would like to know more about these services and participate in our Network, please fill out and return the form at the end of this report. It would be very helpful to us if you would take a few minutes to answer the questions about this report on that same form. Thank you for your assistance.

Sincerely,

Robert W. Kaufman
Director

/tjd

INTRODUCTION

Control of urban development and preservation of open space have become increasingly controversial issues in recent years.

Conflicts have been intensified by lack of public money. Urban open space programs, including parks and recreation, have in many parts of the United States been given a very low priority as budgets grow tighter and tighter. In the areas with greatest loss of economic activity, even "essential" local services such as police and fire service are being cut. It should not surprise us, therefore, that in these regions no more open space is being acquired, parks maintenance staffs are cut to "bare bones" levels, and in some cases parks are being taken out of service due to lack of funds to run activities. It is unfortunate that the long-term value of open space in an urban setting often is not recognized.

In addition, many local governments lack a way of coordinating management of open space with the needs and desires of the community. Often, decisions on acquisition, retention and uses of open space lands are made in an unplanned, haphazard fashion. It is too easy, when funds are in very short supply, for local officials to compromise or dispose of "excess" open land for cash or construction of a new business. And it is imperative, especially as budgets decrease, that we develop systematic policies to deal with important local issues on open space and urban development.

This booklet has been prepared to help citizens and local officials resolve these types of issues. It is meant to provide the seeds of ideas; a framework for positive discussion between citizens and local officials; and an introduction to philosophical and technical issues which must underlie the creation of a systematic policy for managing local open space.

The emphasis is on citizen initiation of local government action, or self-assistance. Little emphasis is placed on federal planning or funding since the future of these programs is unknown.

The focus of the booklet is in publicly-owned urban open space, and the terms "open space", "park", or "recreation area" are used interchangeably. Open space refers to any minimally developed area used in either active or a passive manner for recreation; for physical, social and mental fulfillment; or for educational benefit. Any exceptions are identified in the text.

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Our thanks go to these and other individuals who helped make this publication possible, pointed out errors and suggested improvements. Any deficiencies that remain, however, are ours and not theirs.

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LARRY L. HARRIS

Larry L. Harris is a professional landscape architect and land planner. He received a B.S. degree in 1959 from Michigan State University in Landscape Architecture. His previous work experience includes professional positions with both the public and private sectors. In 1970-71 while serving as Landscape Architect for the Parks Department of Kalamazoo, Michigan, he contributed heavily to the redesign of the Kalamazoo Downtown Mall and coordinated the activities of the Kalamazoo design team. In 1971 he became staff Landscape Architect for the Parkview Hills Planned Unit Development located in Kalamazoo, Michigan. Concurrently, he established and now maintains his own landscape architectural firm. He was instrumental in the land planning and landscape design of this unique 290 acre residential community. Parkview Hills has achieved national recognition for its environmental excellence which seeks to preserve natural open space while providing its residents with alternative life styles. Since 1972 he has participated as a part-time instructor for the Department of Agriculture at Western Michigan University. He is a Professional Affiliate of the West Michigan chapter, American Institute of Architects (AIA) and a member of the American Society of Landscape Architects (ASLA).

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CHAPTER ONE

OPEN SPACE DEVELOPMENT IN THE U.S.

"Every part of this earth is sacred...Every shining pine needle, every particle of sand, every mist in the dark woods... the lovely cry of a wipporwill or the arguments of frogs around a pond at night...all things share the same breath, the earth, the beasts, the man...Whatever befalls the earth befalls the sons of earth."

"...love this earth as the newborn child loves its mother's heartbeat...Care for it...Hold in your mind the memory of the land as it is, when you take it, and with all your strength and might and heart preserve it for your children and love it as God loves us."

Excerpts from "Chief Seattle," Forced Sale of Indian Land.

It was open space which brought so many of our ancestors to America--space to be free from European rules and churches, space to grow, space to build and start a new life. They came from overseas, settled, built cities and when the East coast cities grew dense and dirty, moved west toward the advancing frontier.

This "frontier philosophy" survives today. Sadly, many persons and communities still believe that freedom means allowing uncontrolled urban development, then moving on to the next parcel of open land. What's left behind in the cities, for the increasing numbers of poor and moderate-income residents, may be of little concern to those holding this philosophy.

THE PARK IN THE CITY

The Nineteenth Century brought increasing growth and prosperity to the United States. Technological advances achieved during the Industrial Revolution brought great wealth to many. These new wealthy built large homes, often set in expansive country estates away from the grime of the factories. While prosperity resulted in the creation of many beautiful private gardens, wealth of this order was held by relatively few. Most urban Americans enjoyed little open space, especially in the crowded tenement districts near the mills.

The park, generally a larger scale version of the landscaped country garden, began to emerge as the public form of open space in the city. Frederick Law Olmstead (1822-1903) is regarded by many as the man who led the way for the urban parks movement in United States cities in the mid-1850s. Olmstead, who had traveled and studied in Europe, proposed a rural landscape in the heart of New York City for the use of the common man: this idea eventually became Central Park, the first planned park in the country.

Olmstead also thought municipalities should link a series of parks or open spaces into a working complex; from this developed the concept of a parks system for an urban area. His influence on this type of thinking is still seen in major cities such as New York, Buffalo, Philadelphia, Boston and Washington, D.C. The lands he proposed remain the backbones of their park systems today.

TWO APPROACHES

About this time, too, physical education enthusiasts in the cities promoted planned exercise and development of physical skills. Thus two approaches developed for the use of open space in and near the cities.

One school of thought favored natural areas in which passive uses such as walking, nature study, or picnicking were intended. Parks departments were organized to provide these types of uses.

The other school advocated active recreation, which created a need to develop ball fields, hard surfaced courts, playgrounds, boat liveries, and bicycle paths. Recreation departments were formed to provide these types of activities, which were encouraged by social and civic workers who pushed for governmental support and management of public recreation programs.

In many cases, these different types of open space land uses conflicted with each other on the same parklands, because there was little communication between agencies and little concern for the other school of thought.

Park Development Today

After World War II, a growing economy and population combined with shorter work weeks, longer life spans, greater mobility and more income for "extras" created new demands for parks and recreation opportunities. The last 35 years have been a period during which the public became interested in open

space of all types and uses, and many, many types of recreation.

Within local government, there has been a trend to combine parks and recreation under one roof to make the most efficient use of staff and tax dollars. This approach, ideally, shows that the public's desire for leisure time activities can be satisfied through both passive and active means.

For the best use of this approach, we need administrators and citizens who care about the public, listen to the people, and make decisions which balance different needs with high professional standards of planning, budgeting and management. By itself, combining parks and recreation agencies into one solves nothing.

Open Space Categories

Open space in urban areas can take almost any form, depending on the natural characteristics of the land and the way human development occurred. However, these are the most common types:

UNPLANNED NATURAL AREAS

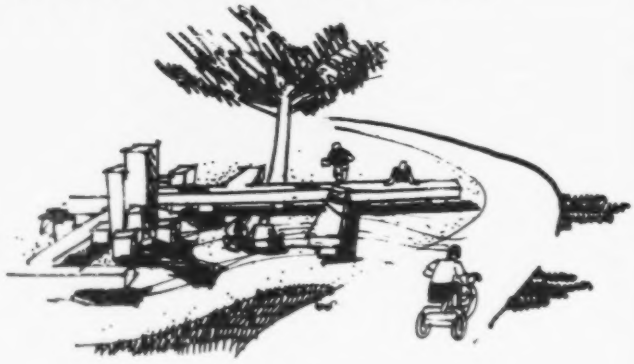
Though this type of open space rarely appears in textbooks, it's common in our cities. Small bits of open land may be created unintentionally, for example: islands and corners left over from highway-building; vacant lots from demolition of unsafe buildings; green strips along limited-access or similar roads; or abandoned street rights of way (which may or may not have crumbling pavement on them).

NEIGHBORHOOD GREEN AREAS

While some of these may be created incidental to other projects, they are usually left alone for a reason, and are relatively small in size. Examples may be a wooded hillside which is too steep to build on; a few acres left in woods by the original developer, and kept that way because they're a good place to run drainage for roads; small marshy areas which weren't built on originally because of high construction costs, and left alone as a place to drain runoff water.

TOT LOTS

When there's only a bit of land and a neighborhood has lots of children, local government may put in play equipment for children; fencing to keep youngsters from running out into the street; and pavement, gravel or wood chips where grass couldn't survive the pounding of small feet. The tot lot is common in densely populated inner cities, and may be built on the lot of a building demolished due to a fire or excessive deterioration.



UTILITY GREEN SPACE

Public utilities, regardless of whether they are owned by government or stockholders, often must acquire or purchase limited rights to use very large amounts of land. Examples include land with underground water (in the Midwest and Great Lakes areas) or lake and feeder stream areas (more commonly in West, South and East) for public water supply, corridors for water supply aqueducts or sanitary sewer mains; corridors for electric power or electronic transmission cables; transportation corridors for railroads, operating or abandoned; and lands for disposal of excess storm water. Although public recreation may be allowed on public water supply properties (except for swimming reservoirs), it is much more restricted than some of the other types of land. Electric companies often pay only for an easement to allow use for power lines, land ownership remains with the previous owner, and frequently intensive uses continue between towers (farming in the Great Plains, commerce and industry in the East).

NEIGHBORHOOD PARK-PLAYGROUND

A basic unit of urban open space is the park-playground at the neighborhood elementary school. Although some school systems are busing students to distant schools for racial balance, most public elementary students still walk to the nearest school. It then provides a focus for education; parent-teacher interaction; and neighborhood recreation, especially in lower-income areas where parents will be less mobile and less likely to take children long distances for sports and entertainment.

Historically, a neighborhood was defined as a residential area contained by physical barriers

such as rivers, major highways or railroad corridors, and served by a school and playground. The school served an area about one-half mile in radius. National standards called for about 5 acres of land, though schools in the 1950s and 1960s tended to acquire more land than necessary.

Facilities usually included play apparatus for children; open grass area for informal play, court games such as basketball, tennis or volleyball; softball field; area for arts and crafts instruction; and a wading pool if appropriate to the neighborhood.

Although increased mobility and changing social values have changed emphases in planning, this remains a basic unit.

Unlike most publicly-owned urban open space which is administered by city government, playgrounds and parks at elementary, junior and senior high schools are governed by the local Board of Education. Declining school revenues along with changing social conditions such as smaller family size and population shifts have resulted in the closing of many neighborhood schools. These important open spaces are in jeopardy of being sold to bolster school revenues and consolidate physical facilities.

PLAYFIELDS OR COMMUNITY SCHOOL/PARKS

Open space facilities designed to serve larger geographic areas with more specialized or more intensive uses may take different forms, depending on the community and where it is located in the United States. Planners' ideas for ideal situations often give way to local values, budgets and real estate markets.

Junior and senior high schools often are on very large tracts of land, and have baseball, softball, football and/or soccer fields, a track, gymnasium, tennis courts and other facilities used by students during the school year. The outdoor facilities are usually open to the public during the summer, and children's play equipment and craft programs may be available in the summer as they are at neighborhood park/playgrounds.

A ballpark may provide a dozen or more diamonds at a single location, to serve several neighborhoods or, in smaller municipalities, the entire community. Frequently, children's play equipment or other playground equipment is installed at the same location. An outdoor swimming pool, likewise, may be on a large tract of land with other sports facilities or passive use areas, and will serve several neighborhoods or an entire community.

These are only a few examples of open space areas which tend to serve populations well beyond the city neighborhood.

MAJOR PARKS

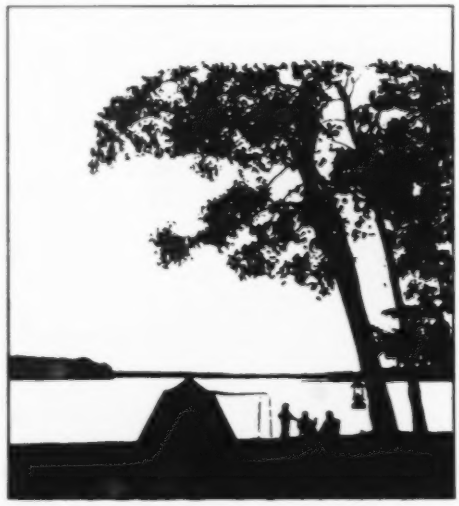
These are the backbone of a city park system. Most major parks were acquired during the formative years of the community and the park system, often by buying large parcels of forest or farm land. From time to time, wealthy, community-minded citizens donated land for major parks. Ideally, the number and location of these parks would be determined by a municipality's size, need, economic growth and natural characteristics. But this often hasn't been the case.

A major park usually provides a great variety of activities for persons of both sexes and all ages. These may include:

* Court games: basketball, tennis, handball, shuffleboard.
* Lawn areas: open areas, possibly softball diamonds, soccer, bocce.
* In larger cities, a zoo or penned animals.
* Picnic tables and grills.
* Lake or stream, often with waterfowl which may be fed all year.
* Walking paths or bicycle paths.
* Play apparatus for children.
* Forest or other natural areas for passive use.
* Seating for casual use, often near objects of interest such as streams and fountains.
* Golf course may be part of the park.
* In larger cities, outdoor theaters or museums, riding stables, boat liveries or bicycle rental concessions.

COUNTY AND REGIONAL PARKS

Usually a county or regional park will be outside the central city of a metropolitan area and provide land and recreation which can't be provided in densely populated areas. While county parks are owned and operated by local units of government, regional parks are administered by metropolitan parks authorities or state agencies to serve several counties. County parks generally meet specific uses and needs, but are not necessarily very large. Regional parks often are several hundred acres or more in size and provide many activities on one site.



Types of recreation may include:

* Camping, either individual sites or group facilities.
* Water sports on larger rivers or lakes, including swimming, power boating/water skiing, canoeing, sailing, fishing.
* Winter sports such as cross country skiing or snowmobiling; limited hunting may be allowed in a few cases.
* Hiking trails, marked nature study trails or exercise trails.
* Natural areas which may be forest, marsh, prairie or other terrain found in the specific location, and intended to remain undeveloped.
* Interpretive talks or lectures on nature or recreation.

Perhaps the largest park of this type is the Cook County Forest Preserve system near Chicago, which totals 30,000 acres mostly adjacent to the Des Plaines River. Another unusual example is Winter Park, a profit-making Rocky Mountain ski resort which is part of the City and County of Denver's park system.

The Current Open Space Situation

WHEN CONCERN ARISES

Open space needs become increasingly apparent as urban growth accelerates. Action to increase the amount of public open space is most likely to occur in counties possessing a large urban influence and increasing suburban growth. There is growing concern about man's effect upon his environment. The inevitable results of increased urban development are: less land in its natural state; increased air and water pollution; and increasing noise and soil erosion. Poor planning and development practices have increased public concern because they promote land development without sensitivity for destruction of natural resources or limitations of the sites.

INADEQUATE LOCAL CONTROLS

Small local governments which encircle most of our cities are ill-equipped to provide the services necessary to deal with encroaching urban development. They lack the sophistication required to plan and control urban growth. Only occasionally do these smaller suburban governments have the foresight or the money to put the needed planning and zoning controls into legal form before the demands of developers put pressure on the land and the local officials. Improper land use and helter-skelter development is often the result.

In 1970 alone, approximately one million acres of the land base in the United States was converted to urban development. For the sake of comparison, one million acres is the equivalent to the size of the state of Rhode Island.

THE NEED FOR FOOD

In marked contrast, the National Agricultural Lands Study released in 1981 indicates an increasing need for lands to support agricultural activities. Demand for agricultural products is producing a steadily expanding market. Predictions also suggest that U.S. agricultural exports will increase substantially faster than other domestic exports in the near future.

The increasing demand for land to satisfy all land use requirements is placing a severe strain on our natural habitats and plant communities which support thousands of species in wildlife in many parts of the United States. Since further reductions in our natural land base are contemplated, various species of wildlife may be forced into extinction while others must retreat further into the wilder lands which remain. The demand for cropland, open space, and development land is therefore expected to exceed the supply.

This is not true everywhere, and economic change influences the demand for land. Lands once farmed in New England have reverted to forest, and forest animals including the coyote are again becoming widespread. Mining "ghost" towns which once were home to thousands of persons have, in many cases, gradually fallen down, rotted and disappeared into new growth aspen and evergreen forests. But this process takes much longer when pavement covers the land.

WATER

Our water sheds, likewise, are an important open space consideration. Land situated adjacent to urban lakes and streams is aggressively sought by developers and open space planners alike. Undeveloped shorelines are hard to find along any of our major lakes and rivers. Because shoreline land costs are high, often public recreation, such as boating, fishing, swimming and wetland study are severely limited.

All forms of land use and waste water disposal have threatened water quality to some extent. The indiscriminate disposal of toxic wastes, inappropriate use of fertilizers, and the contamination of ground water through landfill operations have noticeably reduced our water quality.

The Values of Open Space

SOCIAL VALUES

Some psychologists maintain that surroundings consciously or subconsciously shape our attitudes, providing tranquility or tension, pleasure or dissatisfaction. Too much of our present urban environment adds tension to already hectic stresses of job, home, and everyday modern existence.

Humans appear to be able to adapt to almost anything in their environment, including air pollution, noise and environmental drabness. Man's apparent ability to adapt may be his greatest liability. On one hand, it allows him to adjust to slowly developing adverse conditions; and on the other, it could easily threaten his survival. Adaptability permits human adjustment to damaging environmental circumstances, of which we aren't aware. When environmental conditions deteriorate to a point where they are readily apparent, it may be too late to reverse the cycle.

In urban areas today there is a need for open spaces to serve a variety of our recreational needs. Public open space has advantages over private space. Access to public land is open to all citizens, while access to private open space usually is by permission of the owner. This transmits "messages" to citizens. Messages about public open space usually tell citizens what facilities are provided, and what activities are intended. Private open space sends messages to citizens about the extent to which the public is excluded; and in some cases the social status and privacy desired by the owners.

If an individual has a feeling of well being in the built environment that surrounds him, it is reflected in his activities. The type of space that surrounds us can either stimulate or inhibit us. Case studies and theoretical models dealing with human behavior and the human environment have been conducted by various institutions, with varying degrees of success. Some have tried to isolate how spaces (man-made and open space) play a behavior role in our way of life and specific ways of thinking. While these studies can be rationalized from many perspectives, a case can be made that the type and amount of spaces in our urban areas do in some degree shape our social behavior. As urban life becomes more stressful, the more important the influence of open space. Stress is most pronounced in low income neighborhoods.

Money and Race

Often the lower on an economic scale a neighborhood is, the less likely it becomes for that neighborhood to have the open space and recreational activities required for good physical and mental development. Citizens who live in disadvantaged neighborhoods have fewer opportunities to enjoy open space located elsewhere in the community or region because they may not be able to afford transportation costs or special clothing, supplies or equipment for activities such as camping, boating, tennis, or nature study. Minority races also may be uncomfortable in an all-white environment (just as many whites - rightly or wrongly - may feel threatened in a black neighborhood).

Higher income neighborhoods outside our major cities tend to be less densely population, which may reduce the residents' perceived need for public open space.

ECONOMIC VALUES

Placing an economic value on urban open space as it relates to public benefits is a difficult task. The value of land in a free enterprise system depends on supply and demand. The value of real estate is directly proportionate to the market demand, potential use, and rights of ownership within its geographic locality. Publicly owned open space used for recreation does not fit into the normal private land market. The parcel's value as open space cannot be measured in dollars in the same way as land or improvements for a commercial venture.

Fees and Rents

One method of estimating the economic value of public open space is to monitor the success of a program and determine the revenue that is directly or indirectly generated by it. While public parks are largely supported by tax dollars appropriated through the general fund of a municipality, additional revenues can be obtained from user fees for camping, boat launching, sports leagues and other activities. Private concessionaries' rent, leases of areas for farming or scientific research and the rental of park facilities can provide more money to local government and indirectly support park budgets.

Value of Nearby Property

In a more indirect manner, open space generates revenues by enhancing the value of adjacent private properties. For example, a 1977 study in Chicago concluded that property prices were $1,000 higher for parcels within one block of an urban park as compared to similar parcels

further away (Vaughn, 1977). In the Philadelphia area, Hammer (1974) estimated that for each acre of a public park adjacent to a stream, surrounding private property values would increase an average of $2,600.

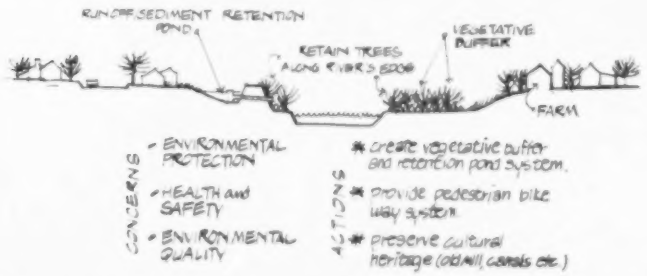
A less tangible, but just as real, economic value of open space is its ability to maintain a more desirable urban environment. Open space acts to preserve the existing tax base by improving the stability of a neighborhood. The neighborhood park for instance, serves a useful function by providing neighborhood recreational, social, and educational interactions. The relationships formed in these activities buttress the stability of the neighborhood and the community. This stability and the favorable community image of green trees and open areas are incentives for people and business to locate and remain in a particular community. The present tax base is maintained, and the expansion of the tax base in the future is encouraged by the presence of open space and the quality of life associated with it.

ECOLOGICAL VALUES

Ecological considerations directly related to land and resource preservation often are neglected. These include the function of open space for watershed management, environmental quality, and aesthetic appreciation.

Storm Water

As urban development occurs, the volume of storm water run off increases when pavement and structures cover the soil and remove the natural vegetation which would otherwise slow and absorb rain and melting snow. Suspended soil particles and other pollutants are washed from the land surface directly into lakes and streams. In addition to reduced water quality, storm runoff produces visibly dirty water and increases aquatic weed growth.



Greenbelts adjacent to natural water bodies can reduce sedimentation, encourage land preservation, reduce need for expensive flood control projects and lessen flood damage. Areas of open space can:

(1) Insure ground water recharge.
(2) Improve water quality by reducing soil erosion and sedimentation.
(3) Increase recreational benefits, such as nature study, fishing and boating.
(4) Sustain wetlands, which provide wildlife habitats.
(5) Absorb peak water discharge and naturally filter some of the suspended pollutants.
(6) Keep lake and stream levels more constant over the entire year.
(7) Enhance the community appearance.

Open space and the vegetation growing upon it may also contribute substantially to the abatement of visual blight and noise levels. If it is utilized properly, it may also aid in moderating extreme climatic conditions.

Lastly, but worthy of consideration, is the need to renew and foster a personal appreciation and pride in our urban areas as good places to live and work. In spite of the hard work provided by many conscientious public agencies, ugly reminders of visual pollution and environmental drabness confront us every day. The utilization of plant masses, and land forms such as berms or hills, can combine to create outdoor spaces in which individuals can relate and feel secure.

It is clear that a more effective means of preservation and evaluation of open space and its impact on our lives is required. The cooperation and collaboration between the public and private sectors of our cities has never been more important than it is today. Cooperation between professionals in many fields, and public administrators as well as lay personnel, must be encouraged to gain maximum results. Community benefits may increase or decrease as the amount of land allocated to development is increased, depending in part on converting land from its previous use to a more intensive use. There needs to be an analysis of benefits versus costs when alternative categories of land use are compared. Criteria must be established which would aid in evaluating the compatability of a potential land use to a site and to the community as a whole.

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CHAPTER TWO

REVIEW OF OPEN SPACE SITUATIONS ACROSS THE U.S.

"When the supremacy of man is expressed in the form of the city, one seeks the evidence to support this superiority and finds only an assertion."

Ian L. McHarg

The open space situations in many cities have been altered a great deal in recent years. Because some of these situations may have local implications, it is important to understand national trends and the responses of certain cities to recent economic and social changes.

A 1979 questionnaire study undertaken by the U.S. Heritage Conservation and Recreation Service sampled sixty-eight city parks and recreation departments in the United States. The results of this extensive study indicates several trends in the operation of urban parks and recreation departments.

BUDGET PROBLEMS

Budget problems are severe and widespread in the urban park systems. Sixty percent of the cities reported suffering a budget crisis in their parks and recreation departments. The major areas of budgetary problems involve personnel and facilities and program maintenance. A freeze on hiring was reported by 59% of the departments responding. Forty-four percent reported that facilities and program maintenance had been reduced due to budget limitations.

Complicating the budgetary problems have been increased needs for public safety, energy, and community programs. Seventy-six percent of the cities reported an increase in vandalism and problems of user and staff safety. Energy costs and availability have affected 90% of the park systems programs and operations.

PROGRAM CHANGES

Additionally, as the average age of the population of the U.S. has increased park systems have been forced to readjust facilities and programs. This is true particularly for the densely populated urban areas of the Midwest and the Northeast. Ninety percent of the respondents have developed programs and facilities directed toward senior citizens in the last few years. The identification of needs of physically and mentally handicapped persons has resulted in the introduction of a large number of new programs as well. Primarily, these new programs are related to specialized social and recreational activities, and not to open space programs. With the demise of federal funding and CETA staff, these program advancements may be severely reduced or eliminated.

CHANGES STARTING

In response to these budgetary and program pressures, many cities have taken to alternative methods of financing and operation. In recent years 53% have imposed new or increased fees with 49% reporting the development of new or innovative sources of special funding. The creation of cooperative relationships with local business groups and voluntary organizations has taken place in 82% of the respondent systems. However, only 38% acknowledged the existence of a formal mechanism, such as a joint steering or autonomous program review council for achieving coordination of public and private open space and recreation. The importance of a review council would be to aid recreation oriented agencies in avoiding expensive duplication of facilities and services. These statistics seem to indicate a lack of organization and/or an unwillingness to scrutinize and sacrifice existing activities.

Specific Responses to Current Problems

Various cities and organizations have developed strategies to cope with providing quality open space within a local area. Near St. Louis, Missouri, an organization called the St. Louis Regional Open Space Foundation acted to use private donations to initiate state and federal governmental action to preserve land along the Meramec River.

The Foundation negotiated with the landowners to purchase two parcels of land for $1,025,000. To acquire money for a sales contract and to provide matching funds for government monies, various private donors were approached. A company which owned the mining rights to one of the parcels was persuaded to convey the mineral rights worth an estimated $17 million, to the Foundation for one dollar. This provided for clean title when the purchase was consummated, and allowed the corporate concern tax relief. Additional funds were obtained from the State Land and Water Conservation Fund.

GREENING CAMPAIGN

The rehabilitation of ten miles of the Platte River as it winds through the Denver, Colorado metro area is an excellent example of private sector involvement in public open space preservation. In 1974 the Platte River Development Committee was formed to plan and coordinate a $6 million program to improve the Platte River. Early in the undertaking the First National Bank of Denver became interested in participation. Rather than a direct grant, the bank started a "Greening of the Platte" marketing campaign.

The campaign obligated the bank to plant a tree along the Platte River and provide a $5.00 gift certificate redeemable at selected local nurseries for every $200 deposited in a bank savings account. The campaign resulted in the Platte River area receiving over $22,000 worth of trees and immeasurable mass media publicity on the condition of the Platte. The bank generated over $8 million in additional deposits, and invaluable public relations within the Denver area.

Recreation and open space planning is a portion of a larger planning effort involving transportation, land use, economic development, etc. Phoenix, Arizona has implemented an "urban village" approach to planning and management. This approach involves local neighborhoods (villages) in needs identification, and planning initiatives while providing coordinated management for the city as a whole. Ideally, residents in each of the designated neighborhoods will have significant influence on open space and recreation facilities, programs, and operations in their local area.

DEVELOPMENT RIGHTS

Montgomery County, Maryland has utilized zoning, public services location, and citizen involvement in the implementation of its comprehensive plan, which includes a stream-oriented open space program. It is in the process of setting aside land areas as "Agricultural Reserves" solely for farming, residential and open space uses. The primary tool to establish these areas is the purchase and transfer of the development rights (TDR) from areas of restricted development to areas where higher density development is to be encouraged. While the program is voluntary, landowners benefit substantially because they are able to sell their development rights on a density basis on one unit per five acres. If they want to develop their land in opposition to the plan, local zoning allows only one unit per twenty-five acres in the "Agriculture Reserve" area. The development rights are to be purchased by developers as a means of increasing densities in other portions of the county designated for development. This program coordinated with other programs, such as a TDR market fund and a state-supported farmland district and easement program, are putting Montgomery County in the forefront of open space planning and preservation.

Several cities have established mechanisms for the funding of open space operations, maintenance, and specific projects. Individual trust funds have been created in Alamogordo, New Mexico and Wheeling, West Virginia which target funds obtained from the private sector to specific programs or projects. Donors are assured that these monies will assist their preferred project.

ENTERPRISE FUNDS

Enterprise funds are another method of supplementing open space programs. Enterprise funds retain revenues generated from a particular facility or program to be used to operate that facility or program separate from the municipal general fund. Enterprise funds provide the mechanism for tying together dollars spent on open space with dollars earned. This offers greater incentive to broaden the system's revenue base and maximize the efficiencies of an operation. Montgomery County, Maryland and Nashville, Tennessee, have instituted this approach. They have organized their revenue-generating facilities separate from other park operations. Separate records are kept on each facility to allow cost efficient management of the facilities.

These examples represent various attempts to deal in a realistic way with open space and recreation problems. No single approach is universally successful. This suggests that a multi-faceted approach geared to the local sitution is the best strategy for a community.

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CHAPTER THREE

IDENTIFYING NEEDS BY INVENTORY

"Almost everything that we do that is worth doing is done in the first place in the mind's eye."

J. Bronowski

Our life style today is facing a period of re-adjustment in the United States. Differing levels of government services, and how we will pay for them, will be a controversial issue. Increasingly, municipal departments will have to justify financial requests. Public administration will require vision and astute business sense. The short-term view is not a pretty one. It will be far easier for an operating line department performing an essential service, such as the Public Works Department, to justify its spending. The financial requirements of the public works activities are often dramatically illustrated to the public by immediate cause and effect. On the other hand, it is more difficult to justify requests for acquisition, development and maintenance of parks and recreation because there is less community perception of relevant need and direct benefit.

While open space or lack of it may over time affect our lives, the problems are not easy to identify, communicate publicly, or solve. The reasons we may be frustrated, tense, nervous, bored or even angry are not easily understood. It is far easier to understand solutions to a nuisance which affects our health or safety than it is to wrestle with ideas on how open space affects on our lives.

A community planning and action program is required to generate public awareness of the importance of open space. The initial step in the program is a community-needs assessment. Citizen involvement in needs assessment is essential. An informed public can provide needed information and provide the power and motivation to solve important issues.

While planning to identify needs, concrete data is required to substantiate proposals and to assess current levels of service.

System Inventory

An inventory of existing open space facilities is essential in order to understand what services are currently available. It is surprising how many park systems have not done this. A site location map of the community and the accompanying acreage list is not an adequate inventory. Many communities have only sketchy information on the size and property line locations of each open space parcel.

Location and size are important, but more critical are the related data that must be acquired. We need facts on service duplication, effectiveness, justification, and improvements. Land that is surplus or unproductive can then be more easily identified. An inventory will provide clues to an organization's management strength or ineptness.

SELF EVALUATION

The process of self-evaluation is important and must be utilized as a tool for administrative improvement. Continual assessment and justification of activities aids in self reliance and attainment of objectives. For most communities, it is the physical facilities, such as ball fields, tennis courts, and picnic grounds that are obvious products of the parks system. What the public sees and thinks about them is important because public opinion can influence future spending levels. The key to an inventory is making sure that it provides information that can be used to answer facility-related questions later in the planning process. A comprehensive inventory should indicate what facilities are available, how they are used, and the role they play not only in the recreation system, but in the over-all land use pattern of the community. It can indicate certain general socio-economic conditions surrounding each site. Inventories also afford visual assessment of open space balance throughout the community, which could in turn affect or reflect environmental concerns or requirements.

TWO LEVELS

As the inventory progresses, it will be increasingly important to view the facilities on two levels.

First, on the ability to meet the requirements of the user and secondly, as a part of an important interlocking puzzle to preserve urban environmental integrity. Park classification, or category, is important because it will aid in later evaluations of facility use/function, and it delineates a basic service area. For example, a neighborhood playground would provide specific recreational activities and possess an effective service area of between 1/2 to 3/4 of a mile radius. On the other hand, a major park might possess active and passive recreation as well as educational opportunities. Its effective service area could well be several square miles. Natural open space might serve as a water-retention basin, as a flood plain, or to preserve terrain, vegetation, or native wildlife habitat and its value would be assessed on its effectiveness to the area's environmental quality as well as on any passive recreational pursuits it may provide.

CLASSIFICATIONS

Open space classifications might include the following categories:

- Tot lot
- Playground
- Neighborhood park
- Athletic fields for competitive sports
- Recreational centers
- Major park
- Natural open space
- Utility & highway easements and rights of way
- Educational facilities, such as arboretums
- Botanical gardens

It should be emphasized that listings of recreational facilities existing in the community should include private and quasi-public facilities. The expected permanence of the facilities are also important. The stability of these facilities will determine the reliability of future service.

Once completed, a method of evaluating each parcel and its contributions to the community must be devised. Guidelines for evaluation might include previous facility use, current use and potential use.

A site's potential might include its ability to meet current and future demands, location, socio-economic considerations, and environmental impact. In addition, the financial aspect of each facility including cost of staff, maintenance, and development requires appraisal.

Each department needs to compare benefits to operating expenses. Financing is a fundamental concern. Cost reductions and expenditures require justification based on the service. Equipment utilized, labor, and operating overhead must be related to specific acreage and function. In addition, an existing operational cost of development and administration can be used as a basis for cost estimates in future development proposals. User oriented benefits in economic terms are valuable tools for service justification. Comparing fees for private parks, analyzing travel costs to demand, and appraising surrounding property values provides a sound factual base for public park evaluation.

A suggested format for gathering information for an inventory might be as follows:

PARK AND OPEN SPACE INVENTORY SUGGESTIONS
(Form)

Parcel (Name, public or privately owned, and Department Jurisdiction)

Total Area of the site (acres)

Inventory Number (map location number)

Identification or classification number (any numbers utilized by others for computer identification, such as the real estate or assessing departments for identifying department jurisdiction or tax exemption, etc.)

Park type or land use classification (neighborhood park, major park, ball fields, etc.)

Facilities development (what facilities exist and how extensive development is on the site.)

Property Description
- (a) Legal Description
- (b) Deed Restrictions
- (c) Line drawing - indicating property shape, giving dimensions, and indicating property corners.
- (d) Land Survey records - such as land survey date, problems encountered, abstract, and surrounding land use.
- (e) Existing Natural amenities - type of vegetation and its value, forms of wildlife, soil type, existing water, type terrain and suitable uses suggested by land form.

History
- (a) When acquired
- (b) Any relevant estate information

Comments (from public governmental body, advisory boards, technicians.)

Facility Use Analysis

Neighborhood surveys can measure the effectiveness of a facility. They may be taken at the time of the facilities inventory or completed later. Surveys determine community attitude and acceptance. A survey should measure demand, expected level of service and the satisfaction level of the user group.

USER SURVEY

There are several commonly used methods of obtaining dependable information. One way is to determine the user frequency at a facility. This is determined by counting those who use a park or who actually participate in a specific activity. The information collected helps find changes in use

patterns of a park or other facility, and provides a sound basis for future planning. The information also tells us how much specific programs or facilities are used.

INTERVIEW VS. QUESTIONNAIRE

On-site personal interviews are another method of obtaining information. Interviews with users of a facility or open space activity provide information on services which are preferred or disliked, and comments not only on facilities but also on staff procedures, park maintenance, and programs.

Even though interviews are more time consuming, and expensive to administer, the results are usually more meaningful than written questionnaires. Questionnaires can cover the same topics as an interview more cheaply, but often results are less useful; this is because most people do not take the time required to fill out and return them properly, and it's harder to express ideas or opinions on a prepared form than in a personal interview. Questionnaires are most effective when received from well-educated people who are personally interested in specific topics, and are under some obligation to respond.

Surveys should be utilized to develop specific information about facilities from a broad community base. Surveys conducted with a narrow base may not provide statistically dependable figures on opinions relating to services. Every effort should be made to insure that the information collected is reliable. Biased questions should be eliminated and an effort made to produce a representative sample of the population. Individuals who participate in the information-gathering process should be well trained and if possible experienced. There are many techniques which can insure the integrity of the survey.

Research into the subject should be undertaken before carrying out a survey. Colleges and universities may be able to assist local agencies at little or no cost.

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CHAPTER FOUR

PLANNING, GOALS AND NEEDS

"Would you tell me, please, which way I ought to go from here?"
"That depends a good deal on where you want to get to," said the cat.
"I don't much care where —" said Alice.
"Then it doesn't matter which way you go," said the cat.

Lewis Carroll
Alice's Adventures in Wonderland

Planning, defined in the technical sense, is a process of intense and comprehensive thought to guide a future course of action. Planning at the local level provides a systematic assessment of important community objectives, facilities, and factors influencing community development. The process attempts to project a future course of action which will benefit the public collectively.

Planning for recreation, open space, and environmental concerns begins by developing an understanding of its requirements in relationship to all other important community needs. It is important to understand the overall planning process since it represents intent by the community to form a legal basis for subsequent implementing action.

THE MASTER PLAN

This evaluation of overall community needs and its prescriptions for future action is represented by a document known as the community Comprehensive Master Plan. The thrust of the comprehensive plan is to analyze and utilize the widest range of relevant information on community development, and to provide long range goals to satisfy facility development and land use needs. Items considered to influence the public welfare include recreation, land use, public transit, housing, education, streets, and utilities. Community goals and objectives are usually outlined for a five-to-twenty year period.

Recently the federal government has stimulated a great deal of advanced planning at the local level by requiring a community comprehensive plan as a prerequisite for many grants-in-aid. In light of our rapidly changing society, and the length of time required to prepare such a document, it is often in need of some reevaluation by the time it is completed. Periodic review and revision of the plan to recognize new trends is important.

Land Use Planning

A major aspect of the comprehensive plan and one which is important to public policy deals with land use planning. Land is a limited resource and those limits can be economic as well as physical. Individuals will use land under their control, as personal resources permit, to achieve as much income, natural beauty, and/or peace of mind as possible. For example, a farmer would make land decisions and mix those qualities in different proportions from those of a realtor. The sum of those private choices sets the pattern of land use for a community.

THE MARKETPLACE

Historically, the land markets, relying on private decisions and planning, have dictated the allocation of land use for a community. Land use determined this way has some inherent problems. For example, not everyone has the money to own or control land. This limits their ability to share equally in land use decisions. Secondly, all land uses do not have an effective market,

yet they are valued by the public. Scenic areas and areas of prime farmland fall into this category. The use of these lands is valued for its benefits to society as well as the return on investment. Finally, some land uses impose costs on individuals not involved in the land use activity. Land that experiences soil erosion contributes to flooding; a smokey factory can dirty nearby homes and businesses costing them more for window and siding washing.

PLANNING LAW

Because there is a lack of self-regulation of private development for the common good, methods of land use planning at the public level have been established by law. Land use planning seeks to recognize the market's limitations and publicly regulate options and patterns of land use in a community.

The basic land use control tool for local governments is zoning. It permits local governments to establish zoning districts within which certain uses of land are permitted and others prohibited. Several districts usually are established by a local government, with differing intensities of land use. Examples are: residential single family; residential multiple family; mobile home park; offices; retail commercial; light industry and repair shops; heavy industry. Zoning has been used effectively in many urban areas, but often is less effective in rural or agricultural areas. While land can be preserved through zoning as open land, it does not necessarily maintain the land's value. Restrictive zoning of open or agricultural land often generates fierce public reaction since it reduces development options and, hence, potential value to the owner and buyer. However, it is clear that communities must develop strategies for the preservation of open space and the maintenance of natural amenities.

The Comprehensive Park and Recreation Plan

Parks and recreation are the major foci of the Comprehensive Park and Recreation Plan. This plan should outline all actions required to provide adequate parks, recreation and open space to meet the community's present and future needs. The plan must reflect all actions to be taken regardless of time necessary to implement them. It becomes the basis for short term action programs and is the fulfillment of strategies to satisfy long range community recreation and open space requirements. The requirements are developed by inventory and evaluation of recreational opportunity within the locality. The plan indicates what is required, why and where it is required, who it will serve, and the amount necessary to satisfy the need. It should be as comprehensive as possible considering long-term goals, encompass all aspects of recreation and open space, and reflect multiple levels of recreational service needs. Recreational levels would include public and private activities within the neighborhood, community, and region. Indicators should be clear as to the direction the community wishes to pursue relative to its parks, recreation, and open space development in future years.

KEY ELEMENTS

Key elements of the plan include background, recommendations, and implementation techniques. Background material would include findings and observations that form the basis of the plan. Needs, goals, objectives and strategies would be summarized, indicating basic rationale behind specific recommendations.

Recommendations should form the major portion of the plan. Subjects covered would include:

1. Physical Elements
   a. Land acquisition for new facilities or the expansion of existing ones - techniques which might be utilized to accomplish acquisition should be discussed.

   b. Site development as it relates to yielding maximum benefit of intended use and its compatability with existing land use and zoning.
   c. Park rejuvenation in terms of current and expected facility conditions, costs, and methods to be employed to remedy current and expected situations.

2. Programs and activities
   This section would include a thorough examination of activities and programs. It would delineate methods of accountability and propose the best utilization of existing facilities within the community, both public and private.

3. Management
   This section would stress methods of insuring effective department organization designed to obtain maximum results from personnel, public relations, financing and budget control, and maintenance and security.

4. Environmental and Open Space
   This would consider methods of balance between urban development and open space. Recommendations for insuring the protection of sensitive natural areas and the continuance of wildlife would be important. Methods which would foster appreciation of aesthetics and a reduction of urban blight should also be included.

5. Assessment and Revision
   Methods of citizen and agency involvement in the re-assessment of needs should be projected. Formulas for assessing relevant criteria and procedures for reporting results should be developed; the importance of plan review and the methods utilized for obtaining accountability should be stressed.

To accomplish these five basic elements of the plan, any visual aid which would illustrate ideas should be utilized. Maps indicating facility location and type are important.

Plan Development and Establishment of Goals, Objectives and Strategies

DEVELOPING A FRAMEWORK FOR THE COMPREHENSIVE PLAN

The plan must show the community's commitment to goals, priorities, and implementation strategies for open space planning, rehabilitation, service, and maintenance. These services affect other local governmental services directly, or indirectly, and are essential to the functioning of the community.

Involve Others

Agencies that will prepare the plan should be identified early. To be effective this should be a collaborative effort among citizen groups, the planning department, and the parks department. Specific responsibilities of each department should be understood and realistic timetables established for each task assigned.
Involving other agencies in the planning process, and encouraging elected officials to participate, builds broad support for recommendations and agreement among community agencies. Schools, especially, should be involved since there is a close association among open space activities, education, and school physical facilities. Social agencies which could relate closely to open space and recreational needs should be included. Some of the agencies might involve employment, housing, historic preservation, and the arts. In addition, independent agencies, such as utilities or redevelopment authorities, could provide information of value to the recreation and open space plan.

Utilizing existing organizational structures, such as social agencies, planning commissions, and advisory boards, can be very helpful. Information which they gather in the course of their daily operation often is valuable to the parks plan and reduces the time required to gather pertinent facts. Encouraging elected officials to be included on advisory boards, perhaps as ex-officio members, is also helpful. The Chamber of Commerce and service clubs may also help in obtaining useful information as well as providing feedback on broad issues. Feedback is very important because it aids in keeping the planning process relevant to community needs.

It is impossible for public recreation to provide all the facilities, programs, and open space required to meet citizen needs. Therefore, it is important for communities to stimulate and nurture partnerships with quasi-public and private recreation. The private sector of recreation performs an important role in assuring a wide range of available recreational activity. It is wise to include the important private groups in the planning process. This might include persons involved with tennis clubs, golf courses, campgrounds, boat liveries, boating clubs, riding stables and clubs and archery clubs, to name a few.

The Citizen's Role

A plan cannot be succesful unless care is taken to involve citizens throughout the planning process. Citizen participation produces community preferences and a broader citizen understanding of the operation of local government. More importantly, citizen involvement provides a firm base of support and a source of political power necessary to implement

plan strategies. Community involvement through neighborhood associations increases the probability that available funds will reach areas of greatest need. Other mechanisms through which citizen participation can be encouraged include open public meetings, workshops, group presentations, ad hoc committees, advisory boards, direct mailings of information, survey and questionnaires, and mass media exposure.

METHODS FOR PLAN EVALUATION

Once the framework for planning has been established, methods of assessing plan proposals must be developed. This must begin with an evaluation of previous planning efforts. It is necessary to know what processes and actions have created the present open space situation. What goals are presently held and what objectives are presently sought? Departmental operations and policy often reflect current or previously held objectives and should be dictated by the community's Comprehensive Master Plan.

Key concerns not specified by existing documents should be developed into assumed goals. These assumptions, combined with existing goals, help in deciding what data are needed to determine which of these goals are relevant.

GOALS, OBJECTIVES, STRATEGIES

Goals are broad statements of what we want to achieve. They reflect aims for an extended period of time.

Objectives are more specific accomplishments needed to reach prescribed goals. They aid a community in an examination of alternative actions, choices, and techniques to meet its open space needs.

It is necessary for a community at this point to understand the implication of proposed goals and objectives in relationship to overall community development needs, goals, and objectives. Since a community is constantly faced with choices on the best use of resources to satisfy competing agencies, programs, and facilities, referral to the community Comprehensive Master Plan is essential.

While professionals should organize and present possible goals and objectives, the citizens should judge and approve them.
From an array of alternative choices of action to accomplish goals, strategies are developed. A

strategy is a course of action to accomplish results by taking a number of actions. Strategies filter out choices least likely to produce the desired results and focus on those that can.

PLAN FLEXIBILITY

Once established, there is a natural tendency to view the plan as an end in itself the final product. It is actually an effective tool for accomplishing an end and tools do need to be cared for. The planning process must be recognized for what it is; a dynamic, perpetual activity influenced by current and past trends.

The process is as important as the plan. Continuous evaluation, assessment and readjustment provides flexibility and responsive action. We need flexibility to evolving circumstances and to new understandings of what constitutes environmental quality and effective recreation.

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CHAPTER FIVE

THE IMPORTANCE OF SELECTIVITY

"The greatest of all gifts is the power to estimate things at their true worth."

la rochefoucauld
reflections

For many reasons, the actual process of selecting and retaining open space is never ideal. Politics, expediency, restricted budgets, and insufficient community support, among other factors, combine to reduce the effectiveness of open space decisions. Many examples exist which show poor selection of open space. They include the duplication of recreational services, poor facility location, inadequate facilities, unanticipated construction and operational costs, declining urban environmental quality, poor utilization of existing space, and ineffective open space retention.

Park and recreation departments must become more selective to insure that physical facilities serve the community as effectively as funds permit. Many times open space is acquired or disposed of without the benefit of a consistent and comprehensive policy to direct the process. The importance of such a selection policy should be the consistent application of value assessment to both new acquisitions, and facilities presently within the system. The potential or actual value of open space to serve the public effectively is the primary consideration.

Service Needs

The need for recreational and educational services is increasing in the vast majority of our metropolitan communities. This demand for leisure time pursuits has not only influenced public recreation, but generated private business ventures as well.

Today, a number of private companies offer a range of recreational activities for a fee. Like the public sector, the private sector is plagued by fiscal problems created by inadequate planning, or competition in a limited market. For example, racket sports clubs have failed due to overbuilding and recession in the early 1980s. Private recreation also may overlap and duplicate public recreational activity. Selecting activity programs and making open space decisions in cooperation with one another will aid in obtaining maximum returns from the parks and recreation budget.

LOCATIONS

Selecting open space in strategic locations, while perhaps not the lowest cost alternative initially, will prove to be the most cost effective in the long run. Assessment of community open space demand (see Identifying Needs by Inventory) will show geographic and recreational use needs within the community, resulting in informed decisions on facility location. Land with physical characteristics appropriate to the intended use will narrow site possibilities. For example, a softball field will require a site of a particular size and terrain with minimal vegetation.

The initial expense of recreational facility development increases with urban density. Land acquisition and development costs may be too high for recreational uses in the most strategic locations. When this occurs, there is a temptation to look at the community's periphery where land is cheaper and more abundant. If advance planning dictates the eventual need there, the acquisition is reasonable. If on the other hand, the need is to satisfy a demand of a particular interior urban neighborhood, then suburban land acquisition is a poor choice. The true value of land for a variety of recreational needs depends on its ability to serve the public efficiently. Need, accessibility, and cost effectiveness are key items in estimating the prospects of public benefit.

Economic Implications

The economic costs of open space have been increasing much faster than the funds to provide these facilities. The tangible costs include land purchase, capital improvements, facility and program development, maintenance and security. Lands that fulfill a particular need at a particular time must be purchased, usually at great expense. Many communities cannot justify such expenditures from their general funds, so they seek less costly alternatives. They acquire open space land by donation, trade, or less than market value purchase.

These acquisitions have the advantage of being less expensive, but also may be in the wrong place or suitable for the wrong activities. Accepting donations of land unsuitable for further profitable development, or having to maintain such lands, can be devastating to a park system maintenance budget. The acceptance of such land must be governed by a consistently applied policy which determines its public value. The economic questions involving the loss of tax base, the costs of perpetual care and the legal liabilities of ownership are a few of the topics that require resolution before public acquisition.

Park land is purchased and improved in many cases through the use of funds from federal, state, public organization, and private foundation grant programs, such as the Federal Land and Waterways Conservation Fund and Land Trust. In recent years these sources have diminished or become unavailable in many regions of the U.S. The results has been a decline in open space acquisition necessary to meet pressing needs.

FIXED OR CONTINUING COSTS

Although land acquisition requires a substantial financial expenditure by a community, it is usually a fixed, one-time cost. On the other hand, the costs of park development, maintenance, and security are long term costs escalating at a very rapid rate. These costs are the most pressing financial problems for most park systems. The City of Chicago Department of Development and Planning estimated that the average 1974 acquisition and development cost of a park and program to be $178,000 per acre. Operation and maintenance costs were estimated to be approximately $22,000 per acre per year. Undoubtedly these costs are higher at this time (Vaughn, 1977).

Yearly costs for a park system operation involve approximately the following percentages of the annual budget.

40 - 50	full time salaries
5 - 10	part time staff salaries
10 - 12	fringe benefits
25 - 30	service commodities
8 - 10	equipment

As can be seen, most of the budget is devoted to personnel costs. Budget limitations reduce personnel having a direct effect on services, programs, maintenance and security.

IMPACT

A Federal study compared the budget situation of several urban park systems. Factors influencing the 1971 budget of these systems were compared to their 1979 budgets. The study results indicated an:

- 18% increase in the number of park systems reporting a freeze on new hiring in 1979.
- 31% increase in personnel discharges due to budget cuts.
- 6% increase in significant program elimination due to budget problems. (U.S. Heritage Conservation and Recreation Service, 1980)

As services are reduced and fees for recreation programs are started or increased, the burden falls most heavily on the poor and elderly. These people already have the fewest open space opportunities and alternatives available to them.

In many communities, the current amount of open space and the respective activities/use are costing more than the budgets allow. The prevailing attitude is to maintain the status quo, eliminating land acquisition and prohibiting new programs within the system. This strategy may help balance the budget, but due to population movement and changing needs and values, the open space and park system may become increasingly irrelevant to the community.

INDIRECT COSTS

Indirect costs of open space include the taxes that are forfeited by a municipality when a parcel of land is taken out of private ownership for use as a park or open space. These taxes could amount to several thousand dollars per acre per year, depending on the land's potential private use.

Within an urban area the open land available for residential or business development is limited. The selection of some of these areas for parks or open space limits the number of alternative locations available for new private development. In some cases, this limited supply will increase the purchase price of the available development locations. The shortage of suitable sites and the higher purchase price may discourage developers from locating in a community. This possible reduction in development initiatives can be seen as another intangible cost of open space. Whether this is a problem depends largely on the supply and demand for developable land and the land use planning and management within the community.

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CHAPTER SIX

OPEN SPACE SITE ANALYSIS

"A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, and flora, as well as people."

Aldo Leopold

The preservation of urban land for open space is an important factor in providing a quality environment for urban citizens. This section is intended to aid both government officials and private citizens in considering site assessment for recreational use and community benefit.

Existing Park Land

Public land determined to be valuable open space should be protected from sale. Too often a change of administration or political expediency results in disposal of open space, to the detriment of the community.

PROTECTION

The best protection for open space may be found in states which have created public acts that provide authority for local home rule. In Michigan the authority to designate a piece of public-owned property as a park is embodied in the Home Rule Cities Public Act 117. Michigan law maintains a purpose of vesting control of local affairs in the electors of each Home Rule City. Essentially the act states that any sale of a parcel of land, which has been duly designated on the comprehensive plan and dedicated as park land by the appropriate local governing bodies, is subject to approval by a majority of the electors voting at a general or special election. The act is one way of effectively insulating existing open spaces and their facilities from sales and displacement by administrative decisions based on temporary political considerations.

The act probably does not go far enough. It does not provide for categories other than park. The act should legally define and apply the term "Open Space" to encompass all forms of recreational use.

AVAILABLE LAND INVENTORY

Both public and private land in a community should be inventoried for possible future open space use. Research information should indicate general site conditions, assessed value, and basic market price. The data should be reviewed periodically to insure that they are current. If the acquisition of a parcel of land is being considered, it will require pertinent financial information concerning land costs, potential tax loss, cost of development, and maintenance costs. In addition, a thorough knowledge of legitimate financial sources for funding the facility is important.

General Factors Influencing Site Selection

Developing a sound method of evaluating and selecting open space sites should be a prime concern of any parks and recreation department. Actually all land which falls under public jurisdiction should be evaluated for its benefit to the community. Site evaluation should occur on any parcel be it donated, assumed, or actively pursued for purchase. It should amount to justifying that its value to the community is worth the expense of acquisition, perpetual maintenance, or facility development. It is the lack of precise accountability of expenses that mystifies taxpayers and confuses policy makers in many situations.

Land should be accepted or acquired based upon data which determine its worth to the community. An obvious approach for providing the data would be by determining the site's capabilities to fulfill a recreational need in the specific neighborhood. Not so obvious, however, is a land resource analysis to gain an understanding of the parcel's environmental and aesthetic significance to the over-all welfare of the community. Focus must go beyond the parcel's boundaries in order to make judgments of the site's impact on its surroundings. Consideration must be given to potential hazards from proposed activities such as flying objects, noise, and rowdy behavior, or on-site improvements which influence surrounding areas by causing flooding, erosion, or increased traffic. The site selection process must be designed to address both the site itself and the larger community.

Resource Analysis for Site Selection

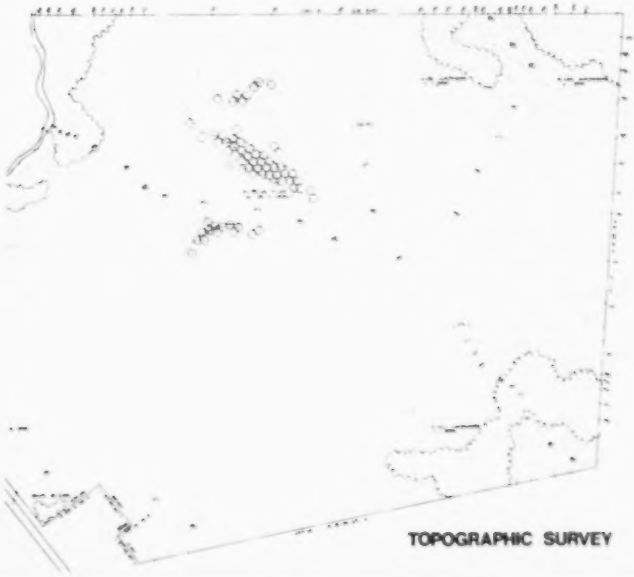
It is essential to analyze the site's physical compatability with the intended use or uses. Basic to site design is the identification of both the limitations as well as the potential of the land to maximize intended use. Natural elements will dictate the best potential use of the site, influence the placement of activity or use areas, and determine their basic relationship to each other. Expenses associated with the design and construction of roads, walks, parking lots, and the preservation of native habitat will be significantly influenced by the site's existing physical elements.

TOPOGRAPHY

Planners must understand the land contour in order to develop a functional site plan. It is important to insure that the planned activities correspond to the capabilities of the site's topography. The best and least expensive approach is to retain the topography in its natural form without modification.

When the topography is modified, it should be accomplished in an economical and environmentally sound way. Earth moving is a major expense connected with park and open space development. Aside from existing physical factors such as wet soils, bedrock, or stands of vegetation, earth-moving costs are increased by the quantity, the number of handlings, and the distance required to move the soil to achieve the desired results. Early detailed study will reduce earth-moving quantities and costs to the minimum, such as by balancing of cut and fill areas. If preliminary investigation indicates that excessive earth cuts or vast amounts of fill are required to accomplish the proposed activity use, excavation costs will run exceedingly high.

Study should be undertaken to insure that proper quantities of top soil do exist on the site to achieve normal replacement depth on newly completed activity areas. Off-site purchasing and on-site installation of large amounts of top soil are expensive. If total excavation costs are projected to be abnormally high, then alternate site locations should be considered.



TOPOGRAPHIC SURVEY

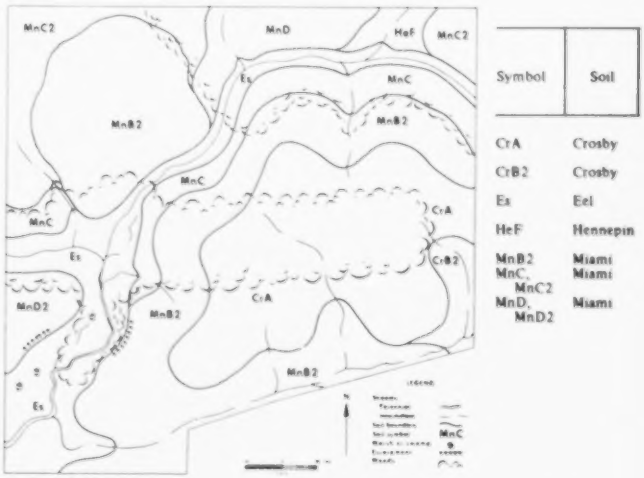
Any topographic data obtained to evaluate a site prior to acquisition will be beneficial. Sources for topographic data or aerial photographs include the county surveyor; the photography department of the local newspaper; the U.S. Soil Conservation Service; regional, county, and city planning departments; the local engineering or public works department; and appropriate departments of colleges and universities in the vicinity. Landscape architectural, civil engineering, or surveying firms within the area may prove helpful since they may already have provided preliminary studies of the site for the previous owners or have worked on surrounding parcels. Often if the firm does not have the information at hand, it will know where to get it.

Landforms and their limiting factors must be a major concern early in the process of site assessment. Models of the topography, constructed of overlaid pieces of cardboard, can be helpful in visualizing landforms and their effects. A model is much easier to interpret than a two-dimensional drawing.

SOILS

The soil types of an area are valuable indicators of the variety and types of vegetation, wildlife, and activities or structures which the site can be expected to support. Many counties have U.S. Soil Conservation District offices. These offices, first organized in the 1930s to provide and stimulate land conservation practices, are good inexpensive sources of information on soils and land. The Soil Conservation District office in your area can provide a soil survey containing soils and soil capability information which can aid in determining the wisest use of the land. A soil survey usually includes an aerial photograph with the soil type,

Soil map



land slopes, existing erosion, and the soil capability to support particular uses superimposed over it or on attached pages. This information will influence the type, amount of use, and location of recreational activity allowable on the site. Soil type as determined by its physical characteristics reflects soil structure. Soil structure or the combination of sand, silt and clay particles can be a significant factor in determining the type of facility that can be physically supported on the site.

The suitability of particular soils for leaching fields, sewage lagoons, roads and parking, buildings, recreational facilities, and camp sites is heavily influenced by soil structure. Soil structure influences water percolation rates, which in turn determine surface run-off, and waste-disposal capacity. Percolation tests can usually be provided by the county health department and should augment data provided by the soil survey and capability map.

Additional information may be obtained through soil chemical and nutrient tests. Soil samples taken from the site are sent to a laboratory for analysis of the acidity (Ph), amounts of primary nutrients, presence of contaminants, etc. The tests augment the other data indicating the types and amounts of vegetation and wildlife the site can be expected to support. The Soil Conservation office, county cooperative extension agent, and the county health department are good sources for this type of soil information and assistance.

WATER

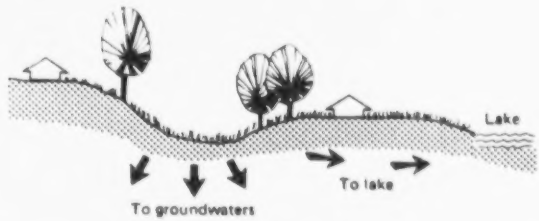
Land which provides access to water in any form is highly valuable. Extensive private development of our shorelines over the years has restricted public recreation and access to water. Because use is restricted, public water activity in most forms is well received by a community. The familiar forms of water recreation, such as swimming, fishing, and boating, are almost always in demand. In addition, interest in nature study as a form of outdoor recreation is increasing. Therefore, wetlands in the form of swamps, bogs, ponds, or backwaters often have as much appeal as lake or river frontage. The few remaining wetlands near

urban areas are especially ecologically important since most wetlands have been drained to permit various forms of land development. The wetland habitat supports many species of birds, mammals, reptiles, insects, and vegetation and provides excellent outdoor nature study areas rarely enjoyed because access to them is difficult. Pathways through wetland, if constructed properly so as not to impact sensitive areas, can provide interesting walking, hiking, and cross-country skiing as well as many forms of outdoor study.

Surface and underground water on a site influence greatly its potential for passive or active recreation and related uses.

The quality of surface water determines whether it holds desirable fish, and whether it is clean enough for full-body-contact water sports such as swimming and water skiing. Activities and maintenance must be planned so as to protect water quality; storm water should not be discharged to lakes and streams, lawn fertilizer should not be allowed to run off into surface water, and areas near lakes and streams should not be allowed to erode. Nutrients from these sources reaching lakes and streams will encourage growth of algae and weeds, making the water less desirable for swimming and other water sports.

PERCOLATION BASIN RECHARGES AND REPLENISHES LAKE OR GROUNDWATERS



Advance planning can easily place drives, walks, paths, parking lots and buildings where water running off these surfaces can seep back into the soil. This will purify the water instead of polluting lakes and streams.

Activities should be appropriate to the terrain. A softball infield should not be located next to a stream because rain can wash infield dirt into the water. Heavy foot traffic should not be directed onto steep slopes unless improved stairs or paths are provided to avoid erosion. Soils along shorelines are especially vulnerable to erosion if used too heavily.

Unless city sanitary sewers are available, appropriate well-drained soils will be needed for septic tank-tile field systems to dispose of human waste. Current standards call for separating the tile field by at least four vertical feet from the spring high ground water level. Sewage disposal facilities also should be well away from lakes and streams to avoid contamination by seepage.

The study of water in the soil is called hydrogeology. Unfortunately, little may be known about an undeveloped parcel of land, and soil borings may be needed to confirm actual soil characteristics at any specific site.

More general information may be available through local water utilities, the soil conservation office, university geology departments, U.S. Geological Survey or the state's conservation or natural resources department.

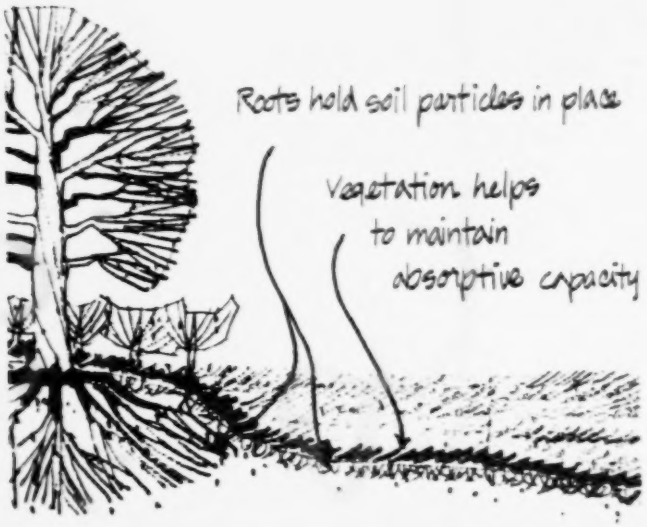
VEGETATION

Existing vegetation can contribute greatly to the natural quality and recreational assets of any site. The amount, type, and arrangement of vegetation on any site should be considered regardless of intended use. Mature trees, for instance, offer

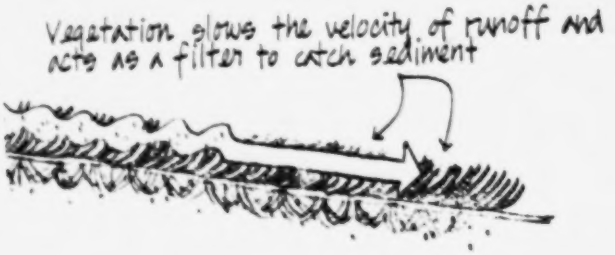
benefits not easily replaced in a short period of time. The preservation of existing trees, regardless of species, is important to establish a relaxed, natural atmosphere.

The replacement of plants after development not only increases development costs, but may emphasize the very objects intended to be screened or softened. A driveway in a park is a good example. More times than not, trees are spaced equally in rows along the drive, yet trees rarely occur equally spaced in the natural setting. The drive planting actually accentuates both the road as a man-made object, and the planting looks artificial.

Development of man-made objects ideally should occur through or around existing vegetation, integrating them with the natural elements. A park drive might proceed through clumps or bands of existing trees and shrubs rather than requiring its own plantings. The inclusion of existing natural elements into a man-made setting, such as clumps of trees in a parking space, can accomplish a great deal to enhance a developed area naturally and aesthetically.



Existing plants provide benefits by preserving the watershed. Plants contribute greatly to soil retention by extending fibrous root systems into the soil. Plants are extremely beneficial in retaining soil on steep grades and banks by holding the soil and slowing surface run-off of water.



Plant communities may offer clues about the physical qualities of a site, which may in turn influence its development potential. By understanding plant types, patterns, and distribution much can be understood about soil types, micro-climates, and existing species of wildlife. The retention of open space for the value its vegetation contributes to a community is worth considering. Plants provide variety and interest, making use of fruits, flowers, and leaves for color. Architecturally and aesthetically, they provide backdrops, enclosures, overhead canopies, and privacy. Open spaces with plant masses can bring to any urban setting human interest and value through some of their aesthetic assets. In the urban areas, plants can help to control solar radiation, reduce glare, absorb unwanted sound, and clean the air. Existing stands of vegetation can moderate influence to the hectic paces of urban activity. In addition, a site with mature trees should be evaluated on its merits as a historical point of interest. Particular interest should be paid to a climax stand of trees indigenous to the area since it may provide a positive link with our past.

Economic Factors in Site Selection

Economic factors play an important part in the selection of an open space site. Additionally, these interrelated factors act on the economic well being of the park system and the community. The primary economic impacts of public open space site selection involve:

(a) effects on the property tax base
(b) direct costs of acquisition, improvements, and maintenance
(c) potential for the generation of revenues
(d) employment opportunities created by a park operation
(e) increase in sales by adjacent retail stores
(f) adjacent private property valuations
(g) "opportunity" costs of not utilizing the land in some other manner
(h) future economic growth and higher land values in a community.

These economic aspects will require the calculation of both values and costs on a case-by-case basis. The calculation of economic impacts are very dependent on the current market demand, interest rates, property tax structure, zoning, specific alternative site uses, physical site characteristics, and the proposed facility.

LOST TAXES

Whenever private land is considered for public acquisition, the effect on the property tax base is a major consideration. Property taxes provide a large portion of the funds for local school districts, community colleges, and the operations of local governments. Each parcel of private property is given as assessed valuation based on its market value. This valuation combined with the local area millage determines the amount of a property owner's tax bill. Generally, when a parcel of land is taken out of private ownership, it results in a loss to the area tax base. This reduces available monies for the school districts and the general fund of the municipal government. The absolute amount of this loss in dollars, and the impact relative to other community revenues and citizen needs must be analyzed.

The most straightforward means of estimating the tax loss is to use the current amount of taxes paid on a prospective open space site under its existing use. This current amount is projected with an assumed annual increase over a 10-20 year time period. The summation of each year's amount over the time period equals the total tax loss if that site is selected for public open space. An associated approach, when specific parcels of land have not been identified in an area, is to utilize the assessed value of a range of comparable land parcels in the area. These values can be used to estimate a potential maximum, potential minimum, and a potential average tax loss for each acre of land acquired for public open space in an area.

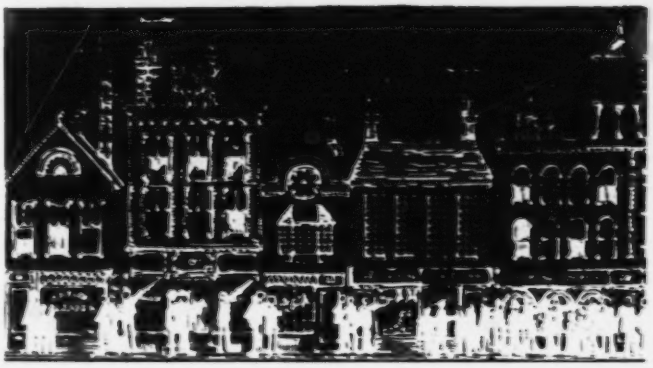
REVENUE

Many parks or activities within a park can be used to generate revenue. Revenues can be produced by entrance and admission fees, rental fees, user fees, concession sales, permit fees, or special service charges. The dollar amount that can be expected from a particular site is dependent upon:

(a) the type of proposed facility or program
(b) closeness to comparable facilities or programs
(c) the potential user population
(d) the ability of the user population to pay

BUSINESS AND EMPLOYMENT

The creation of employment and increased retail activities resulting from a park facility is another aspect that should be analyzed in evaluating the economic impact of open space site decisions. The staff of open space and park facilities is usually made up of local residents. Even though the employment is likely to be seasonal,



most of the payroll expenditures would be spent in the same area at local businesses.

Local retail activities are increased by their proximity to an open space facility. Although most large purchases would be undertaken by a system-wide centralized agent, many smaller and incidental purchases would be made by the park, its staff, and the park users in the local area. Gas stations, grocery, ice cream and sporting goods stores would be the main beneficiaries. The total amount of these economic impacts on the local community would vary depending on the type of facility, the user group, and the seasonality of the facility activities.

INCREASED TAXES

As was noted earlier, several economic benefits are realized in a community due to the proximity of open space to private property. The presence of open space raises the value of the private property, thus increasing the property tax revenues for the area. This assists in offsetting the property tax loss due to public acquisition of the open space area. The effects on adjacent land values can be estimated by comparison of the assessed value of land parcels adjacent to a proposed site with and without the effects of the proposed park land. This information should be obtainable from the local property tax assessor or from property assessment guidebooks and formulas used by assessors in your area. An associated approach is to use an existing park adjacent to similar private properties and uses in a comparable neighborhood. The assessment records along with actual market sales data can be acquired for the parcels before the park, and again after the park has been created. When adjusted for the normal inflation of property values, the effects of the park on both the assessment of the property and actual sales values in the area should be apparent. These values can be compared over the same time period with similar property which did not have a park in close proximity. Either of these approaches or a combination of them should provide a good indication of the increase in property values expected from the creation of the proposed park.

LOST OPPORTUNITY

The cost of a lost "opportunity" should be a part of the economic impact analysis. When land is reserved for a public park, other potential uses of the land are foregone. The amount of economic loss is dependent on the type of alternate potential use, tax situation, employment and business gains that will not be realized in the community. Usually a site with definite potential industrial use would have the greatest opportunity cost if the land were reserved for open space. Business use for a site, followed by multi-family residential, single family residential, and agricultural use would be the order in which value would decrease. The key is the realistic potential for one of these alternative uses. If true potential for alternate use development is not present, the opportunity costs are non-existent. Simply because a community faction wants increased industrial or residential development in an area does not mean that it is a viable alternative use for a specific parcel of undeveloped land in the community.

These opportunity costs can be estimated by determining each of the realistically potential uses for the land. These potential uses are dependent on the physical characteristics and capabilities of the site to support certain uses. Floodplains or unstable soil areas should not be used for industrial, residential, or business use. Agriculture and/or open space may be the most realistic uses possible. The location, permitted land use (zoning), and the comprehensive land use plan for the area will usually limit the types of uses for a site. Upon determination of the possible alternative uses, estimates of the opportunity costs can be calculated. Assumptions will have to be made about potential property taxes, employment, and associated business activity. Information can be obtained from the local economic development agency, the local assessor, the Chamber of Commerce, and from comparisons of similar land use situations in the area.

FUTURE DEVELOPMENT

In some cases, there is substantial community economic and land planning value in not foreclosing at the present time an option for future development of a parcel. A site could be reserved for open space with the understanding that if community needs and the economic benefits increase beyond a certain point, development would be undertaken. These open space areas could provide land and encourage location of new housing or industrial revitalization in areas of need in 10 - 20 years.

The overall evaluation of economic impacts of an open space site decision needs to be presented in a fashion understandable to both citizen and decision maker. A good method is to list the community economic benefits and costs of reserving an open space site in a hierarchy of magnitude or importance. An attempt should be made to specify these costs and benefits in monetary terms as much as is possible. Nebulous arguments about environmental worth, community benefits, etc. do not have as much effect on the minds of citizens and decision-makers as do dollars and cents.

Certainly not all costs and benefits can be put into dollars. Therefore, estimated maximum and minimum amounts of cost or benefit should be provided along with an explanation. Those economic costs and benefits that are beyond any kind of monetary estimation should be provided in a clear fashion within the context of overall costs and benefits.

Complementary Use Considerations in Site Evaluations

Factors which could provide simultaneously a moderating effect on the problems of urban development, aid in the preservation or protection of a vital resource, or provide climate control, are considerations in selecting open space sites. The recognition of multiple complementary uses in an open space selection situation produces wise use of public money and more optimal open space facilities.

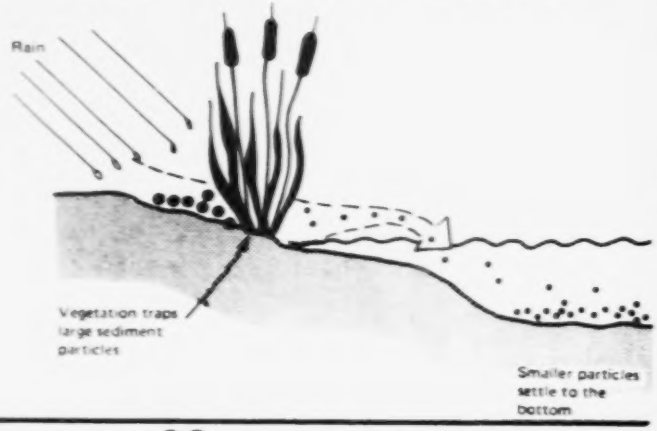
WATER

Communities and cities will exist only as long as they can receive an adequate supply of fresh water. Planning for future supplies must be continual. Water is supplied by two principal means, either through aqueducts from the mountains or large bodies of water, or from underground wells.

Well sites often times are protected by land buffers to avoid water contamination and provide a recharge basin. Land corridors are utilized to transport water by aqueducts. Both could be maintained for recreational use if the need is consistent with site evaluation and does not interfere with any water protection measures. Most well sites and utility corridors are controlled by regulations designed to protect the water supply; this of course is a primary concern.

RETENTION AND RECHARGE BASINS

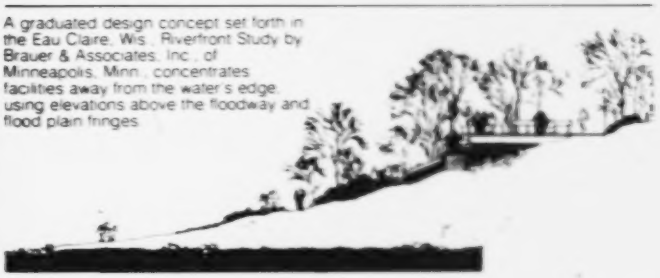
Water captured and retained on an open space area has important impacts on the community and also on those communities downstream. Captured water



is important in two ways. First, a vital natural resource is retained for recharging groundwater aquifers. Secondly, the amount of water discharging into our streams and rivers is reduced substantially. The result of these two actions is to reduce the quantity of soil particles and other pollutants deposited in the streams, and to reduce flooding. Sites chosen are usually low areas which facilitate the collection of surface run-off and storm sewer discharge. The tendency has been to select small sites and discourage public use of them to eliminate liability. Exploring potential sites as multiple use areas should not be overlooked. New approaches to dual use could encourage larger sites and more access which would relieve neighborhood resentment that sometimes accompanies reservoir recharge area or well-field development.

FLOOD PLAIN CONTROL

Continued development of our urban areas has contributed to flooding. When one realizes that between 60% and 70% of our cities' surface is impervious materials, such as roads, roofs, and parking lots, it is easy to understand the amount of surface drainage that takes place within an urban area. Throughout the historical development of our urban areas, storm drainage has always been directed and diverted into our rivers by sewers. It is estimated that more than 70% of the urban storm water is transported by sewer pipe installed prior to the 1950s. This is a major reason why communities are reluctant to change their approach to the problem, especially in the older urban areas of the community. The cost to redesign or reroute storm sewer systems to filter pollutants effectively would be prohibitive.



A graduated design concept set forth in the Eau Claire, Wis., Riverfront Study by Brauer & Associates, Inc., of Minneapolis, Minn., concentrates facilities away from the water's edge, using elevations above the floodway and flood plain fringes.

The result is that large volumes of water are discharged into our rivers in a relatively short time. Flooding can be controlled with dams, levees, and dredging. All are expensive. It seems reasonable to expect that more appreciation of the complementary uses of open space would encourage dual use considerations to reduce surface run-off and the maintenance of flood-plains contiguous to the rivers as open space corridors. Land which abuts water and is subject to intermittent flooding should be utilized for recreation, and not urban development, minimizing flood damage. The cost of an expensive flood control works could be avoided, along with damage to homes and businesses.

Functional Environmental Considerations of Open Space

The site selection process has been explored from several perspectives. An assessment of the site's functional environmental contributions includes climatic, visual, and noise control as well as aesthetic appreciation.

CLIMATE

Land form and vegetation influence weather conditions in a local area. The micro-climate, the term applied to localized climatic conditions, can be altered by topography, exposure, and surrounding vegetation. Trees can be used to reduce heat because they deflect the sun's rays, cooling the ground underneath. Air below a tree is cooler and more humid than the air above it. This explains the sharp contrast between the lower daytime temperature in a forest and the higher temperatures found on open sites and in heavily developed urban areas. Night-time, on the other hand, brings the reverse. Since the canopy of leaves impedes radiation of heat from the soils to the air above, temperatures below are generally warmer at night.

Plant material influences temperatures in another important way. Plants used as windbreaks do increase temperatures in the sheltered area. Higher temperatures are experienced because the air movement is prevented from blowing heated air away. Plants actually do a better job of wind buffering than solid objects. Research has shown that plants which are about 50% permeable cut wind velocity and reduce its deflection.

Windbreaks comprised of plant material slow wind speed, spill snow on the lee side and keep it away from the highways. Studies indicate that wind on the leeward side of a buffer is moderated in some way for a distance equal to 20 times the height of the buffer. For practical consideration, however, a distance of about 10 times the height would be more appropriate.

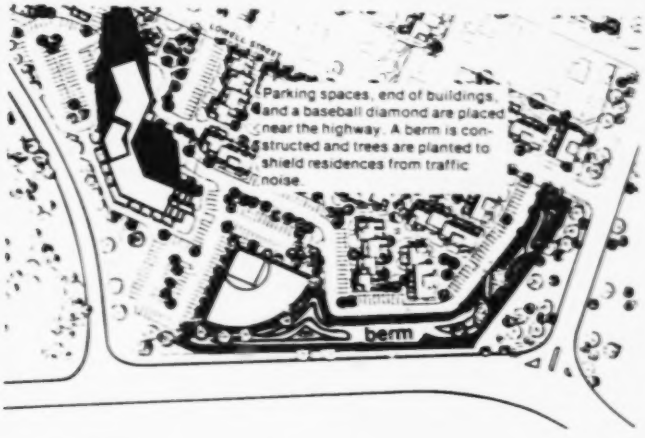
VISUAL CONTROL

Visual control is another function served by open space areas. Strategic locations of vegetation can reduce visual discomfort caused by glare or reflection. Common examples of visual discomfort include headlights of oncoming automobiles, intense sources of light generated from direct or indirect sunlight or parking lot lighting. Massive planting can produce effective visual screens, blotting objectionable or undesirable views. On the other hand, they can become effective tools for leading unsuspecting eyes toward scenic views. The utilization of these techniques is a time-proven strategy incorporated by the professional landscape architect in site selection and modification.

NOISE CONTROL

Noise control can be an important contribution of open space. We live and are surrounded by vast amounts of unwanted sound. Constructing acoustic control in a building is well understood, but less so outside.

Sound travels at different frequencies or wave lengths and its intensity is measured in decibels. Loudness, as we perceive it, is dependent on frequency and intensity. Experts maintain that noise can become a significant hazard to human health when it exceeds 85 decibels. To place this in proper perspective it is important to compare it to sounds with which we are familiar. For example talking is measured at 60 decibels, a vacuum cleaner at 70 decibels, a subway at 100 decibels, and a jet airplace during take-off at 150 decibels. Experts


Parking spaces, end of buildings, and a baseball diamond are placed near the highway. A berm is constructed and trees are planted to shield residences from traffic noise.
berm

suggest that constant noise measured above certain levels places the body in a constant state of tension. The result is constriction of blood vessels and elevated blood pressure. Noise additionally causes a constant distraction which studies indicate reduces concentration.

Sound is diminished as waves are absorbed by air or by objects or by diffraction (deflection of waves off an object in another direction). The ability of plants to control noise is determined by the intensity, frequency and location/direction of the noise, as well as, the location and mass of vegetation. Plantings are most effective in reducing high frequency noises and less effective with the lower frequency ranges.

Open spaces with mixed plants are more effective than single-species planting because they tend to absorb a wider range of frequencies. In addition, plants which produce growth from top to bottom are more effective sound buffers. Grass and ground cover help muffle sound, and when used in conjunction with berms and land forms, do an effective job of deflecting noise. An interesting observation is that plants, which can visually block the source of noise, will psychologically reduce the irritating effects of noise even though the plants may not reduce the decibel level measurably.

AESTHETICS

Throughout today's urban communities there is a critical need to evaluate open space on its ability to improve our environmental qualities. The rolling meadows or mature trees that the land might preserve are important considerations in themselves to provide mental and visual refreshment.

Land should be considered as contributing to our environmental in two basic ways.

First, it is a unifying pattern of land relief throughout the community as a whole. Natural features and spatial patterns are all important in relating design elements. The character of communities is distinguished by the arrangement of these elements. Land form provides scenic value and escape from urban monotony.

Secondly, natural elements such as shorelines, ravines, hillsides, and developed vegetation provide methods of maintaining the continuity of an area's visual and physiographic character. Undeveloped space provides a chance to re-establish and strengthen man's relationship with the natural world.

Masses of plants and land forms are often used creatively to produce outdoor spaces from the intimate to the immense. Outdoor space provides areas to which individuals can relate and identify themselves and it can provide a feeling of security, a consideration not to be overlooked.

SUMMARY

Good management requires the selection of open space sites which will satisfy specific identifiable needs. Design based on function will determine type, quantity, and the relationship of activity use and its distribution upon the site. By utilizing site resources wisely, we can provide facilities which are functional, cost effective, and environmentally sound. We must balance needs with economic reality. Anticipated results must justify expenditures.

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CHAPTER SEVEN

IMPLEMENTATION OF OPEN SPACE ACQUISITION, FUNDING, AND MANAGEMENT

"Reconstructing of our environment will not be done by computers, but it will demand that people become very much involved. The magnificent natural beauty of the United States is being spoiled everywhere, and everybody's participation is required to change this course."

Rene J. Dubos

This booklet has so far examined the general aspects of the current crisis in the local open space situation, the values of open space, open space planning, and site analysis. We now introduce various ideas and methods for community open space management, land and funds acquisition, and revenue management. These methods are directed toward citizen organizations and/or local government. Providing open space in the current local economic and political setting requires the use of creativity and organization on several citizen and governmental fronts. The implementation and success of these methods depend on the involvement of citizens, civic organizations, and the business community working with local government. Some of these methods may be at variance with the current organizational structure, budgetary practices, and traditional operations of citizen groups and local government. Given the current critical open space situation, the modification of old solutions and the development of new approaches is imperative.

Open Space Management

In the broad perspective, communities can help themselves in managing open space by putting to work legal tools which limit the destruction or misuse of open space, and provide incentives for preservation of open space. Local government's role in general land management usually has been to administer regulations authorized by state law. This has resulted in a mix of: local values framed within state statutes and state agency policies.

ZONING

The local zoning ordinance is framed within the constraints of the state law and the constitutional limits on the power of government. The zoning ordinance must be reasonably regulated to the protection of the public health, safety, and welfare. The regulation of private use of land without compensation to the owner is subject to stringent legal safeguards against unreasonable deprivation of an owner's right to use of his land.

It should be noted that the owner is not necessarily entitled to the most profitable use of his land, if the public welfare will be served by limitations on its use through zoning. In recent years, the legal interpretation of the public welfare has been broadened to recognize the role of open space benefit to the larger community. Many legal questions remain unresolved as to the balance of private ownership rights and the public welfare involving open space, especially, for achieving aesthetic objectives.

Types of Regulations

The most common approach for maintaining open space through zoning is the regulation of building setback, bulk, height, lot size, and housing unit density. These provisions mandate that specific amounts of open land for yards and common areas be provided within a development. Performance incentive zoning, an opposite approach to zoning restriction, allows a developer greater unit density or a higher floor area ratio if he provides additional open space within a project.

Subdivisions

In a similar fashion, subdivision control can be used to create open space. Developers can be forced to provide space within their development as a condition for plat approval. Land can be dedicated to the local government or allocated for open space within the development under private ownership. The reservation of open space in this manner is based on either a fixed percentage formula or a density formula. In the fixed percentage situation, a developer is required to donate a specified percentage of the total land area of the development for open space. The density formula method requires the developer to allocate land according to the number of residents planned for the development. For small developments or developments in areas where open space is not required or dictated by the comprehensive plan, fees can be substitut-

ed in lieu of land dedication. The local planning commission should have the power to reject land donations and require fees in these situations. These fees can be targeted for open space acquisition in areas of greater need.

Set aside ordinances may require the subdivider to donate a fixed percentage of his total land area

These practices are not limited to residential projects. Commercial and industrial developments can be involved in similar required dedication programs as well.

Performance Zoning

Performance zoning can be adopted as part of the community land use regulation effort to preserve open space. These objective measurable standards define the maximum permissible impact of certain development activities, such as drainage modification, topographic alteration, and vegetation removal. In order to obtain a permit to carry out these activities, the developer must document that these activities will not exceed the levels of impact permitted in the ordinance. Objective and consistent administration of performance standards is essential for a successful program. Performance standards can be applied in two ways:

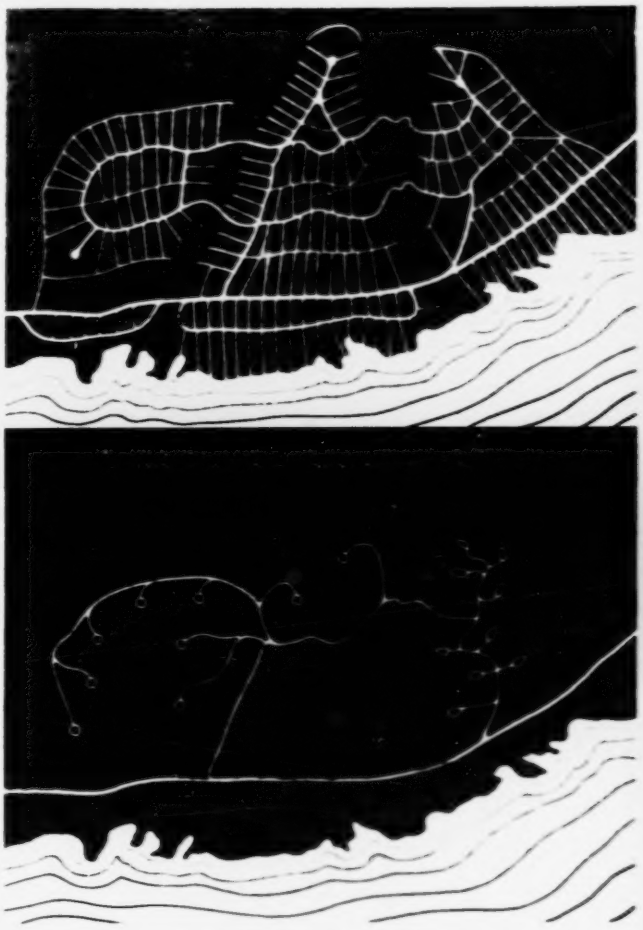
(1) As a supplement or overlay to traditional land use zones.
(2) As a substitute for land use zones.

In the latter case, districts are designated on the basis of planned and existing land use such as, urban core, heavy industrial, neighborhood conservation, and rural. Within each district specific performance standards must be met. Developers are encouraged to utilize creativity and flexibility in site design in meeting the performance standards.

Cluster Development

More recently, cluster development and the planned unit development (P.U.D.) concept has been adopted in many communities. The local zoning ordinance allows the P.U.D. either as a separate zone or as a permitted use in several zones. The P.U.D. allows the developer higher density, mixed land uses, and increased design flexibility. In return for these concessions, the local government requires the clustering of units to provide large areas of usable open space, and maintains greater review power over the ultimate design of the project. This approach to development:

(1) helps to insure the preservation of natural amenities,
(2) reduces the municipal costs of service purveyance;
(3) reduces developer costs for excavation, roads, and utilities,
(4) reduces the amount of impervious surface and increases on-site storm water retention,
(5) reduces the housing cost to the consumer,
(6) provides conformance with the master plan,
(7) and encourages innovation in the project design and architecture.



Planned Open Space

The open space areas of a P.U.D. remain as part of the development to be maintained by the P.U.D. owners' association. This limits non-resident public use, but it relieves the user load on public facilities, reduces the public open space maintenance cost, and reduces the loss of tax base.

Creation of open space through zoning of private land is not a substitute for acquisition and development of public open space. While zoning control can produce considerable amounts of open space, often, it is of little use to the community as a whole. In the central city, it may create no open space at all.

PURCHASE AND TRANSFER OF DEVELOPMENT RIGHTS

Another community management approach to open space preservation involves the development rights to land. When a land purchaser buys land and obtains all legal rights to that land, the transaction is termed a fee simple purchase. The owner of land can sell some of these ownership rights, such as the water or timber rights, without selling other rights. In legal terms, the development rights to land are viewed much the same as the mineral rights, water rights, etc. That is, the right to develop open land into a more intensive use, such as residential housing or industrial sites, is a legal right attached to the land that can be sold, donated, or transferred.

Development Rights

The purchase of development rights from a private owner by an agency or organization is straightforward. The difference between the fair market value of a parcel of land sold for development and its fair market value in an undeveloped state is the value of the development rights. The purchase of the development rights guarantees that the land will continue to be maintained in a low intensity use, such as farming or pasture. The development rights must be prescribed in a precise manner in the agreement to avoid problems in the future. This approach normally costs less than fee simple purchase, does not remove the land from the tax base and does not impose any land maintenance costs on the community or organization.

It allows the landowner to retain ownership with a reduced property tax burden as the land's fair market value is reduced due to a loss in the potential for future development. Landowners who donate their development rights are entitled to a charitable gift tax deduction and an estate tax reduction.

Transfer of Rights

The governmentally coordinated transfer of development rights within a region is the newest wrinkle involving the right to develop land. Usually the county government determines an area within the county to be preserved for farmland or open space. This area is designated as a "sending area" from which development rights can be sold to other areas of the county where development is to be encouraged (receiving areas). The number of development rights, usually expressed in housing unit density, is determined by the local planning agency. The landowners in the sending area sell their development right to developers in the receiving area. The developers can increase the density of development by acquiring more of the fixed number of county-wide development rights. The landowners are compensated for their rights, the developers can increase their profitability by higher density developments, and development is encouraged in the suitable areas of the county. Currently, programs are voluntary. The landowner in a sending area may still develop his land, but zoning restrictions on housing density in the sending area make it much more profitable to transfer the development rights to the receiving area. For example, in Montgomery County, Maryland a sending area landowner may develop his land at one dwelling unit per 25 acres, but can sell the development rights at one unit to 5 acres.

This approach is relatively new. Various aspects are being formulated and improved as similar programs are undertaken. Some areas plan to use a Development Rights Fund to aid in the marketing of development rights within a region or county. Its usefulness appears greater in more regional context, but could be adapted to smaller units of governmental control.

This section has attempted to provide an overview of community level open space management approaches. Many variations of these approaches are possible depending on the local situation.

Land and Funds Acquisition

Local governments, citizens, and organizations can be very effective in acquiring land, services, and funds for open space within a community. Knowledge of methods for their acquisition is important increasingly as governmental programs and budgets are reduced. For this reason, the focus of this

There are many methods of fundraising.

section will be on methods of acquisition other than outright condemnation and full market value purchase of open space by local government. While a few of these methods are primarily within the realm of local government authority, most could be undertaken by non-profit citizen organizations working with local government. Several methods will be introduced with an elaboration on the possible advantages and pitfalls of each to the donor or seller, the recipient organization and the larger community.

Legal counsel may be important in tailoring the various transactions to be advantageous to all parties involved in a transaction. Compliance with local and state laws and the U.S. Internal Revenue Service Code will be an important aspect of most transactions.

DONATIONS

Donations can be in the form of land, money, or service. Donations of land for open space should be reviewed carefully with local government planners. This is to insure that the land meets clearly defined community open space needs and the comprehensive land use and park plans. Land acquisitions always involve the additional costs of improvements, long term maintenance, and operation. Property conveyed with restrictions on future management or sale should be carefully scrutinized. The prevailing state laws concerning the legality of perpetual controls on covenants, property deeds, and easements should be another factor that is reviewed with each donation. If the financial burden appears prohibitive, substantial legal complications are apparent, or the need for the land is not clearly definable and defendable, government probably should not accept donated land.

In the case of unrestricted donations of money or services, these should be used mainly to satisfy present, or short term, future open space needs. This generates community spirit, stimulates additional donations, and provides tangible results for the public to see.

Many are willing to donate millions of dollars for recreation if only they are asked properly.

Outright donation is a highly desirable method of acquiring community open space. The private owner, by execution of a standard deed of conveyance, transfers the land in fee simple title to a governmental agency or non-profit organization with no limitations on activities mix, type of development, or future sale. The advantage to the donors is that they will be able to deduct from their taxes the full market value of the property within certain income percentage and time limitations. On highly valuable property, such as prime open space in an urban area, this could be a very substantial amount.

An outright donation is a highly desirable method of conveying property.

BARGAIN SALE

In some cases where a donor may have immediate need for cash or could not absorb the full amount of a donation on his taxes, a bargain sale combines the advantages of both a gift and a sale. The donor sells the land at less than its fair market value (at a bargain price). The donor receives some money and a charitable contribution tax deduction as well. Bargain sales are applicable to other transfers of property, such as life estates, conservation easements, fee title, and leases. The cost basis of the property is divided between the portion sold and the portion donated in the same ratio as the actual sale price is to the fair market value. The donor's gain, upon which capital tax is payable, is the difference between the selling price and the cost basis allocated to the portions of the property sold. The advantage to the donor include cash, capital gains tax reduction, avoidance of brokerage fees, a charitable contribution tax deduction, and perhaps, a lowered income tax bracket.

DONATIONS WITH RESERVED LIFE ESTATE

Donations with the donor retaining possession and use of the land for his lifetime and/or the lifetime of family members is termed a donation with a reserved life estate. When the donor's life estate term is expired, all property ownership is conveyed to the recipient organization. In most cases, the donor is entitled to an immediate

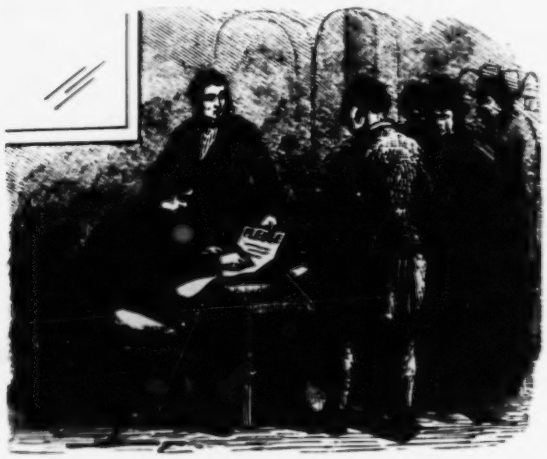
income tax deduction for a charitable contribution. The size of the deduction is based on the difference between the present fair market value and the reduced value of the land due to the retained interest. Additional considerations are the effects on the federal estate tax liability and the marital deduction for the donor's surviving spouse.

DONATION OF UNDIVIDED INTEREST OF LAND

In some cases, donors of land do not wish to release their use of an entire property at one time, usually for tax or land control reasons. An organization can be the recipient of percentage interest in a property with both the donor and the organization sharing possession. No specific physical portion of the land is donated. Thus, an organization involved in such a transaction would attempt to obtain a lease on the remaining interest in the land to allow consistent management. In as far as is possible, the donor should be encouraged to make a series of donations until the entire property ownership is conveyed and/or should include conveyance in his will in the event he cannot complete the transfer during his lifetime.

DONATION IN A WILL

Bequests can be of land in fee simple conveyance (all rights conveyed) or an interest, such as an easement. Bequests can have restrictions upon management, future sale, etc. which must be adhered to by a recipient organization.



Land holding organizations can solicit donations of land and other property from individuals and corporations and raise money for special projects.

Donors provide tax advantages to their heirs by such bequests. Land willed to a non-profit organization or governmental agency is not subject to estate or inheritance tax. In the past there have been no limitations on the amount of the estate tax deduction, thus, it may be more beneficial to the donor's tax situation than an income tax charitable deduction. The donation of less than complete ownership is an attractive alternative to many donors. The bequest of an easement will decrease the size of the taxable estate, often allowing the heirs comfortably to pay the estate taxes and still retain ownership of the remaining interest in the land. Of course, the property remains liable for property taxes.

Generally, a bequest of the property in fee simple is preferred. The details of the will and the proposed bequest should be worked out prior to the donor's death. This eliminates problems later on.

CONSERVATION EASEMENTS

In cases where the entire interest in a property cannot be obtained or is not desirable, a conservation easement is a possible alternative. Primarily, conservation or preservation easements are used as a means of preserving from development without conveying ownership of stream floodplains, roadside areas, and environmentally sensitive areas. They are legal agreements which prohibit uses from being undertaken by the owners of the remaining interest in the land either for a set number of years or in perpetuity.

Conservation easements are usually "negative", in that they give the easement purchaser (non-profit organization or government agency the right to prohibit certain uses of the property. Often they do not convey to the easement purchaser any positive rights of active use of the property, not even provisions for limited public access for hiking, fishing, etc. These positive rights, if desired by the organization, must be negotiated with the land owner.

The conservation easement can be used to prohibit or modify:

(1) specific economic land use activities, such as industrial development
(2) specific resource management practices, such as clear-cutting of timber
(3) billboards and signs
(4) mineral development
(5) alteration of historic sites or buildings.

The specific restrictions on a property reflect the environmental quality or preservation needs of the acquiring agency or organization and the use requirements of the current land owner. In no case does the easement affect the owner's prerogative concerning sales or other conveyance of the property. It only restricts the uses of the property. The only affirmative right nearly universal in conservation easements is the easement owner's right to inspect for violations of the easement agreement. The conservation easement is tailored for each specific situation. This flexibility makes the conservation easement a powerful tool for protecting the public interest, while allowing appropriate private uses of the land to continue.

The valuation of a conservation easement is the difference between the fair market value of the property without the easement, and the fair market value of the property under the easement restrictions. Since conservation easements vary

widely in their restrictions and, thus, the effects on the fair market value, each must be appraised separately. Generally the greater the property owner's uses for a property are restricted, the greater will be the value of the easement. If the restrictions virtually exclude the owner's personal use of the property, the value of the easement will approach the full market value (fee-simple interest) of the property.

Conservation easements customarily give the easement owner the right to prevent certain uses of property.

Conservation easements can be purchased at full value, purchased at partial value with the remainder being a donation from the property-owner, or be a complete donation from the owner. As with previously mentioned donations, tax benefits are available to a donor of a conservation easement. A charitable contribution for conservation purposes to an Internal Revenue Service qualified conservation organization allows the donor a tax deduction in the amount of the fair market value of the easement. Certain limitations do apply in this regard. The conservation easement must be given in perpetuity, the recipient must be granted rights to enforce the protection of the conservation purposes of the easement, and the recipient organization must be required to hold the easement exclusively for conservation purposes without ever transferring ownership to another party.

In some states, lands under either a temporary or permanent easement are exempt from special assessments for sewers, water, lighting, etc. Additionally, the property owner may have reduced property taxes due to a lowered assessment resulting from the conservation easement.

LEASE AND SALE/LEASEBACK

In some open space situations temporary possession of land can be obtained through a lease agreement. This temporary period could be any time period less than the landlord's term of ownership, i.e. one year or 99 years. The terms of the lease agreement specify the responsibilities, conditions, and compensation of lease arrangement. Considerations in a typical lease agreement would be the responsibility of maintenance, liability and other insurance needs, taxes, and the exlusivity of possession.

Depending on local area tax laws, the landowner may be entitled to property tax concessions for property leased to public agencies or non-profit organizations. Usually an income tax deduction is not allowed for the donation of the use of a property via a lease agreement. In some cases, a lease donated in perpetuity for conservation purposes may be considered a charitable contribution.

In a sale/leaseback arrangement the land is either sold or donated to an organization. The parties of the transaction sign an agreed-upon lease which transfers possession (not ownership) of the land back to the original landowner for a specific use. The landowner receives money from the sale or as a charitable tax deduction, but retains the use of the land. An example of the arrangement might be a farmer with no heirs who would like to continue farming. The farmer sells the land for the immediate cash, but retains the right to live on the land and continue farming. The organization or public agency sacrifices some short-term control over the land, but is guaranteed long-term ownership and control for conservation purposes.

Property and income tax considerations are not clear in many sale/leaseback situations. Generally, the landowner is responsible for the payment of property taxes. In sale/leaseback the owner would be either a public government agency or a charitable organization, usually exempt from property taxes. Since the lessee is a private party receiving substantial benefit from the arrangement, the tax exemption may be allowed only if the land is used for public purposes under the lease agreement.

An additional wrinkle to this arrangement is the creation of a revolving fund for the purchase of land to be resold with restrictions. Environmentally sensitive areas are purchased and restrictions limiting future uses are placed on the deed. The restricted land is resold and the money is placed back into the fund to finance additional land purchases. Since the land is resold and not leased, some problems are avoided. The restricted land is worth less on the open market due to the limitations on the future use.

TAX DELINQUENT LAND

In some cases, suitable land can be acquired at a local or county tax sale. The list of tax-delinquent lands is available from the county assessor or Department of Revenue. Tax-delinquent owners may be interested in the donation of their land as a means of obtaining a tax donation benefit while ridding themselves of a costly burden.

Purchase of tax-delinquent land at a tax sale may

be for an amount far below market value of the land. A governmental agency may be able to acquire the land for an amount equal to the taxes and penalties. An organization may have to pay a higher price for the land. Usually the buyer at a tax sale does not get a deed. The buyer is assigned the tax lien which entitles him to a deed when the deliquent owner's redemption period expires.

Working With Corporations

The survival and expansion of public open space programs in the future may depend on the enlistment of private corporate donors to supplement public budgets. The ability of public officials, organizations, and citizens to accomplish this may determine the destiny of many park and open space projects and systems. Enlisting the assistance of corporations is an increasingly popular approach. Corporations are part of the community and can be called upon to contribute to the community good, as any other citizen would, to donate time, energy, and money. They benefit from a stable community and workforce. Corporations are managed by people who value clean air and greenspace, who want to improve the community in which they live and to leave a healthful and rewarding heritage for their children. In fact, the meeting of a corporation's social responsibilty has been recognized in many boardrooms as a legitimate corporate undertaking and expense.

However, it is important to remember that corporations are in business to make money and not to do good works. The management is responsible to the stockholders and employees of the corporation to insure the greatest financial return. Corporations must be approached with persuasive arguments which highlight not only the environmental and community benefit, but also the benefits to the corporation. The management of a corporation must be convinced that a donation would be a sound business decision.

It is important to recognize that corporations are in business to make money.

Requests must be made in business terms stressing the mutual benefit to the community and the corporation. Requests for selective contributions or assistance targeted for certain activities have the greatest chance of acceptance by corporate decision-makers. They must be able to see and document the tangible results of their contributions. These tangible results, such as a new facility or program, provide a focus for the public relations efforts of the corporation as well. The activities, organizational structure, and self image of the corporation must be kept in mind when a presentation is made. This is very important for identifying and convincing the true decision-makers, and for developing points of mutual interest and benefit between the community and the corporation. A positive approach to generate interest and enthusiasm for an open space project is essential. The avoidance of past corporation sins and negative arguments is very important in gaining corporate cooperation.

Business people are accustomed to concise, organized, well-packaged presentations. Extra work on the preparation of slide or other media presentations, specific costs and benefits charts and tables, written documents, and overall organization will increase greatly the chances of success. In an oral presentation, hit the high points, allow time for questions, and provide the more detailed information in a written document.

FACTORS TO GAIN CORPORATE SUPPORT

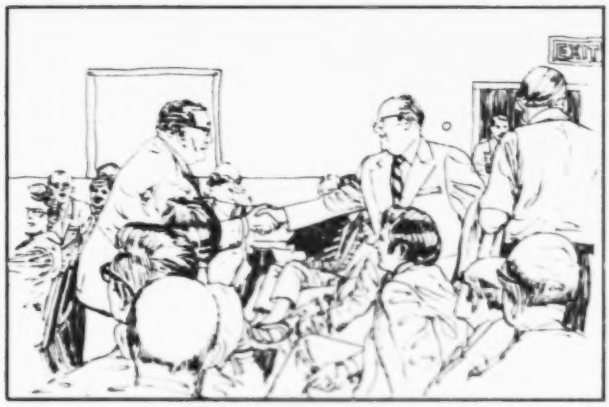
There are several important factors and considerations that can be pointed out to corporate managers to gain their support. The most important business consideration involving the donation of money, land, or equipment is the effect on the tax status of a corporation. Although several of these tax considerations have been addressed elsewhere in this booklet, a few ideas are worth further elaboration. When a donation is made by a corporation, it is entitled to a substantial charitable contribution deduction. In the case of land, the deduction would amount to the fair market value of the land. If the land were sold, the corporation would usually pay a capital gains tax on the profit of the sale. Thus, considering both the tax deduction and the lessening of full market sales profit due to the capital gains tax, the net return to a corporation in selling a parcel of land, rather than donating it, may not be as great as initially thought.

Corporate income tax is based on a graduated tax rate structure. In some cases, corporations can be convinced to make donations which will place them in a lower bracket.

The donation of land or other real property may involve the reduction or avoidance of carrying costs to a corporation. These costs include such things as property taxes, liability expense, security and maintenance expenses. Donation avoids the land market uncertainty, brokerage fees, and other expenses of an open market sale. It is also possible that costs associated with corporate donations to community programs and objectives may be charged off as business expenses,

such as through its advertising budget. These are all considerations that should be presented to a potential corporate donor.

A stable, high quality community is an aid in the long-term growth and profitability of a company. A business decision aimed at long-term profitability must include the maintenance of the well-being of the larger community upon which the company depends for services, employees, market, and political and social goodwill. Demonstration of corporate concern for community needs is good business. It is important that the agency or



organization assist the corporation in publicizing donations. Assisting a corporation in realizing the public relations benefits of a donation will leave the corporation with a positive feeling. A good record will enhance prospects for future associations with other corporations.

Financial Management

This section will present several aspects of financial management. The understanding of these ideas by citizens and governmental agency personnel should provide a basis upon which innovative ideas can be developed.

In most municipal park systems, the administrators have concentrated on the program and facilities aspect of their system. Fundamental financial decisions and allocations for the system have been within the domain of the municipal government. The officials who administer the municipal budget and the general fund allocate funds for parks. Any revenues generated from parks are funneled back into the general fund. In a time of decreasing financial resources this lack of any degree of financial autonomy has resulted in many park systems losing out to other municipal agencies competing for general fund dollars.

Citizens can have a great indirect role in financial management of their open space and park systems. Visible citizen support for the parks systems within municipal government will aid in maintaining general fund support for the system. Citizen pressure on park system adminstrators to "sell" their system to the public and local officials, and to involve themselves in the politics of the budget process, will be helpful as well. Many park systems could be assisted by a restructuring of the municipal budgetary process to allow the creation of park trust and enterprise funds. As this can be a politically charged issue, strong citizen initiative and support are necessary.

Many park systems are implementing or considering fund drives, adopt-a-park programs, and user fees for facilities and programs. The degree of citizen acceptance and patronage can make or break these fees and revenue enhancement programs. The realities of the current and future situation dictate that better planning, better use of funds and innovation in revenue generation are a necessary part of park system administration.

FEES

Fees are often the only alternative when funding from the municipal general fund and other sources of supporting revenue cannot be increased. Fees can be used to offset operations costs, finance expansion of facilities and services, document user demand, control facility use, project an image of fiscal responsibility, and provide a minimum revenue base upon which to plan for the future.

TYPES OF FEES:

Admission	- entrance to a park, building, exhibit, zoo, program
Rental	- privilege of exclusive use of boats, garden plots, rooms, horses, equipment
User	- use of participation in archery range, fishing, swimming pool, golf course
Sales	- operations in related stores, concessions, restaurants
Permits	- permission for vendors, exhibitions, camping, easement use

Special Services - involvement in social activities, instructional classes, reservations

Sports - league fees for sports activities

The major considerations in the decisions whether to charge fees and at what price level are:

(1) Operation and maintenance costs of the facility or program
(2) Estimated public benefits of maintaining the facility or program
(3) Comparable charges at other public recreation areas
(4) Comparable charges at private recreation areas
(5) Costs and level of investment in fee programs, such as additional staff or security requirements
(6) Need for use of fees to limit or control access
(7) How many people use the facilities

Using these decision factors, a cost/revenue analysis should be performed. This analysis is a comparison of the costs of operation of a facility or program; against projected revenues that may be collected due to the fee. These costs and revenues can be evaluated at various fee levels. Non-economic objectives may be reasons for fees. They may aim at reducing the access of trouble-prone users or remaining as a visible symbol of community concern and service within an area.

The form below (HCRS, 1978) can aid in this type of financial analysis.

PROFORMA COST-REVENUE ANALYSIS

Program or Facility:

DIRECT COSTS		FEE REVENUES			
O & M Costs (exclude Fee Collection)		User Group	New Fee Level	Attendance	Projected Annual Revenue
Full-time personnel	_____	____	_____	_____	_____
Part-time personnel	_____	____	_____	_____	_____
		____	_____	_____	_____
Equipment and Supplies	_____	____	_____	_____	_____
Utilities (electricity, gas, water)	_____	____	_____	_____	_____
① SUB TOTAL	_____	____	_____	_____	_____
		____	_____	_____	_____
		____	_____	_____	_____
Annual Fee Collection Costs		____	_____	_____	_____
Personnel	_____	____	_____	_____	_____
Equipment and Supplies	_____	____	_____	_____	_____
② SUB TOTAL	_____				
TOTAL O & M COSTS (1 + 2)	$ _____				
		⑥ TOTAL FEE REVENUES			$ _____
Capital Costs					
Facility	_____				
Capital Equipment	_____				
⑤ Fee Collection Equipment	_____				
③ TOTAL CAPITALIZED COSTS	_____				
④ Life of Improvements: _____ years					
Annualized Capital Costs (3 ÷ 4)	$ _____				
Annualized Costs of Fee Collection Equipment (5 ÷ 4)	$ _____				

Fee Issues

Several issues need to be considered. Fees are an additional burden on the poor, the elderly, and the very young. This "discrimination" can be reduced by fee waivers, a fee structure with varied rates, and work exchange programs. It must be remembered that the alternative is often closing a park or ending a program, and that fee programs can subsidize non-fee programs without additional tax burdens. Fees placed upon a relatively small user group for special activities can provide funds for broader programs to the larger user community.

A portion of the fee revenue should be visibly reinvested in improving the fee-producing facility or program. Users paying a fee will see where their money goes if tangible improvements are made in the facilities they use.

Fees can reduce use of facilities. However, a possible short-term reduction may be countered by an increase in longer-term visitation due to improved services and programs as a result of the fee revenues. Additionally, fee-collection personnel provide security against vandalism and user harrassment. In some cases, a reduction in users is the intended result of charging fees.

TRUST AND ENTERPRISE FUNDS

In many cases, fee revenues are funneled back to the municipal general fund. The discretionary use of these revenues for facility or program improvement is lost. Enterprise funds are a mechanism for managing the costs and revenues of a fee program in a semi-autonomous way apart from the general fund. By segregating the fee program management into an enterprise fund, the fee program can be accounted for, and evaluated, more fully. A burden is removed from taxpayers, and incentives are developed to maximize efficiencies of an operation. More intensive management of these programs can result in measures to increase revenues, reduce costs, and improve the quality of the service.

This form of "public enterprise" can be undertaken only if there is enough demand for an activity to provide adequate fees; local and state laws do not prohibit it; and the local political climate is or can be made favorable to it.

Trust fund creation is a similar method of isolating funds within an overall budget. Financial support from the community via donations, bargain sales, and bequests is increasingly important in meeting the park and open space needs of a community. However, many people are reluctant to donate if their donations are swallowed up in the general fund or, even the park budget. In general, people are apt to donate more willingly if they can target their contribution to a specific park, facility, program, or service, and be assured that their contribution will support that activity. Trust funds are separate accounts within a budget that can accept and reserve monies for a specific use.

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CONCLUSION

Effective influence on local government policies and decisions is a combination of having a valid issue and garning a basis of political support. Citizen's groups concerned with open space certainly can have both. However, truly effective influence requires more than raising the issue and trumpeting the problems. Effective influence requires that the citizen have a basic level of knowledge and understanding of open space issues and implications. This basic level of knowledge should be used to make suggestions to local governmental officials about open space planning, possible solutions, and the implications of various alternatives. Additionally this knowledge is necessary to evaluate the actions and performance of the officials in solving open space problems. The emphasis should not be simply on the problem, but rather on the solutions.

This booklet is meant to provide ideas and information about urban open space problems and solutions. It is meant to be understood and used by non-expert citizens. It is meant to be a focal point and a means for discussion and action by citizens. It is not an end in itself. The end is improved open space policy and resources in our communities.

FOR MORE INFORMATION

This booklet is intended to provide some basics in understanding issues concerned with community open space preservation. However, each community is unique with special problems that need to be addressed. Citizens can have a direct impact on issues of concern to them by becoming more involved and thoroughly informed. The following is a list of organizations and agencies that provide more specific information and assistance on parks, open space and outdoor recreation.

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE - has published many guidebooks for citizens on practical ways to get involved in your community. Topics include volunteerism, preservation techniques, citizen action, fundraising, neighborhood places, maintenance, recreation planning, rehabilitation, fees & charges, and waterfront revitalization. Write for your free copies or ask for a publications list from: Information Exchange; 440 "G" Street, N.W., Suite 223; Washington, D.C. 20243.

NATIONAL RECREATION AND PARK ASSOCIATION - publishes three magazines (reprints available), books, abstracts, bibliographies, and directories on a broad range of parks and recreation issues. A brochure listing their latest publications is available free from NRPA; 3101 Park Center Dr.; Alexandria, Virginia 22302 or call (202) 820-4940.

THE URBAN LAND INSTITUTE - deals with the land use aspects of open space. Available publications include topics on community associations, growth management, planned unit development, conservation easements, development rights transfer, and recreational development. A price list can be obtained from ULI; 1090 Vermont Ave., Washington, D.C. 20005 or call (202) 289-8500.

AMERICAN INSTITUTE OF ARCHITECTS - has a few publications related to open space, mainly in the area of environmental design, landscaping and recreational facilities. A free list of books is available from AIA; 1735 New York Avenue, NW; Washington D.C. 20006 or call (202) 626-7300.

COOPERATIVE EXTENSION SERVICE - publishes many free or low-cost brochures and pamphlets on topics which include community development, environment, forestry, landscaping, land use, and recreation. Write for a free publications catalog to CES; Science and Education Administration; Department of Agriculture; Washington, D.C. 20250; phone (202) 447-3957 or contact your local Cooperative Extension Service Office (see your phone book under county government).

AMERICAN PLANNING ASSOCIATION - offers a comprehensive collection of books on parks, open space and recreation from a planning perspective. Among the available topics are community goal setting, sensitive lands, private options for land conservation, vest pocket parks, trails, growth, zoning, land use, carrying capacity, soils, tourism and many others. Write to APA; 1313 E. 60th Street; Chicago, Illinois 60637 or call (312) 955-9100 for a free copy of the "Planners Bookstore."

THIS FORM MAY BE DUPLICATED

SCIENCE FOR CITIZENS CENTER OF SOUTHWESTERN MICHIGAN

A DIALOGUE QUESTIONNAIRE

Considerable time and effort has been spent to prepare the information and perspectives offered in this report. All readers are requested to take a few minutes of their time to fill out and return this questionnaire. Simply fold on the dotted lines so that the "Business Reply Mail" address appears on the outside, staple or tape closed, and mail — no postage is required.

(cut here and remove)

1. What is your overall impression of this report?

   very good good fair poor very poor

2. Which section was most beneficial to you?

   _____ Chapter One
   _____ Chapter Two
   _____ Chapter Three
   _____ Chapter Four
   _____ Chapter Five
   _____ Chapter Six
   _____ Chapter Seven

   In what way? _____

3. What didn't you like about this report? _____

4. What information was left out that you think should be included? _____

5. Are you or have you been involved in public decisions concerning open space and land development in your community? Please describe briefly:

6. If so, how has this report been useful to you during your involvement in this process? _____

7. Did this report significantly increase your understanding of open space issues or contribute important information of which you were not previously aware? Please explain briefly: _____

Would you like more information about the Science for Citizens Center? (We will tell you how to participate in the Citizens Network and about other services we can provide.) Yes ☐ No ☐

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What Is Science For Citizens?

All of us are part of a society in which science and technology affect our work, leisure and most other aspects of our lives. Science and technology also play an important part in decisions affecting the quality of life in our communities.

Such questions as how to provide adequate housing, to manage the disposal and recycling of wastes, to plan for efficient transportation, to choose among community development options, to conserve energy, or to reduce crime are problems of importance and interest to citizens, community organizations and public officials, who may have different views about how they can best be solved.

All are problems which scientists have studied to check on the feasibility, benefits and disadvantages of the possible choices. The Science For Citizens Center has been formed to encourage, support and involve scientists in community-wide public discussions on local issues. In this way, people will be informed by the best available scientific and technical knowledge.

The Center can be most useful when these services are provided in response to problems with which citizens are concerned and want help in learning what can be done. Discussion between citizens and scientists requires a two-way process. Scientists need to learn how issues and problems are viewed in a community, and how best to respond to them. Citizens need to learn about the potentials and limitations of scientific knowledge on the matters that concern them.